

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER NBU 1021-32D4BS			
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT NATURAL BUTTES			
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES			
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.						7. OPERATOR PHONE 720 929-6515			
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217						9. OPERATOR E-MAIL julie.jacobson@anadarko.com			
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML 21577			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')			
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')			
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>			

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1860 FNL 2105 FWL	SEnw	32	10.0 S	21.0 E	S
Top of Uppermost Producing Zone	825 FNL 842 FWL	NWNw	32	10.0 S	21.0 E	S
At Total Depth	825 FNL 842 FWL	NWNw	32	10.0 S	21.0 E	S

21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 825		23. NUMBER OF ACRES IN DRILLING UNIT 640	
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 1658		26. PROPOSED DEPTH MD: 9632 TVD: 9312	
27. ELEVATION - GROUND LEVEL 5329		28. BOND NUMBER 22013542		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496	

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2060	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 9632	11.6	I-80 Buttruss	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1150	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Danielle Piernot	TITLE Regulatory Analyst	PHONE 720 929-6156
SIGNATURE	DATE 03/14/2011	EMAIL danielle.piernot@anadarko.com
API NUMBER ASSIGNED 43047515130000	<div style="display: flex; align-items: center; justify-content: center;"> <div> APPROVAL Permit Manager </div> </div>	

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 1021-32D4BS**

Surface: 1860 FNL / 2105 FWL SENW
BHL: 825 FNL / 842 FWL NWNW

Section 32 T10S R21E

Unitah County, Utah
Mineral Lease: ST UT ML 21577

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	968	
Birds Nest	1242	Water
Mahogany	1609	Water
Wasatch	4190	Gas
Mesaverde	7077	Gas
MVU2	8063	Gas
MVL1	8581	Gas
TVD	9312	
TD	9632	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 9312' TVD, approximately equals
6,146 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,898 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

9. **Variances:**

*Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements
associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated
with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current
air drilling practices for constructing the surface casing hole should be granted a variance to Onshore
Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a
historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to
drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing
hole in approximately 675 wells without incident of blow out or loss of life.*

Background

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the
surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling
operation does not drill through productive or over pressured formations in KMG field, but does
penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome
the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole
for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the
Bird's Nest.*

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

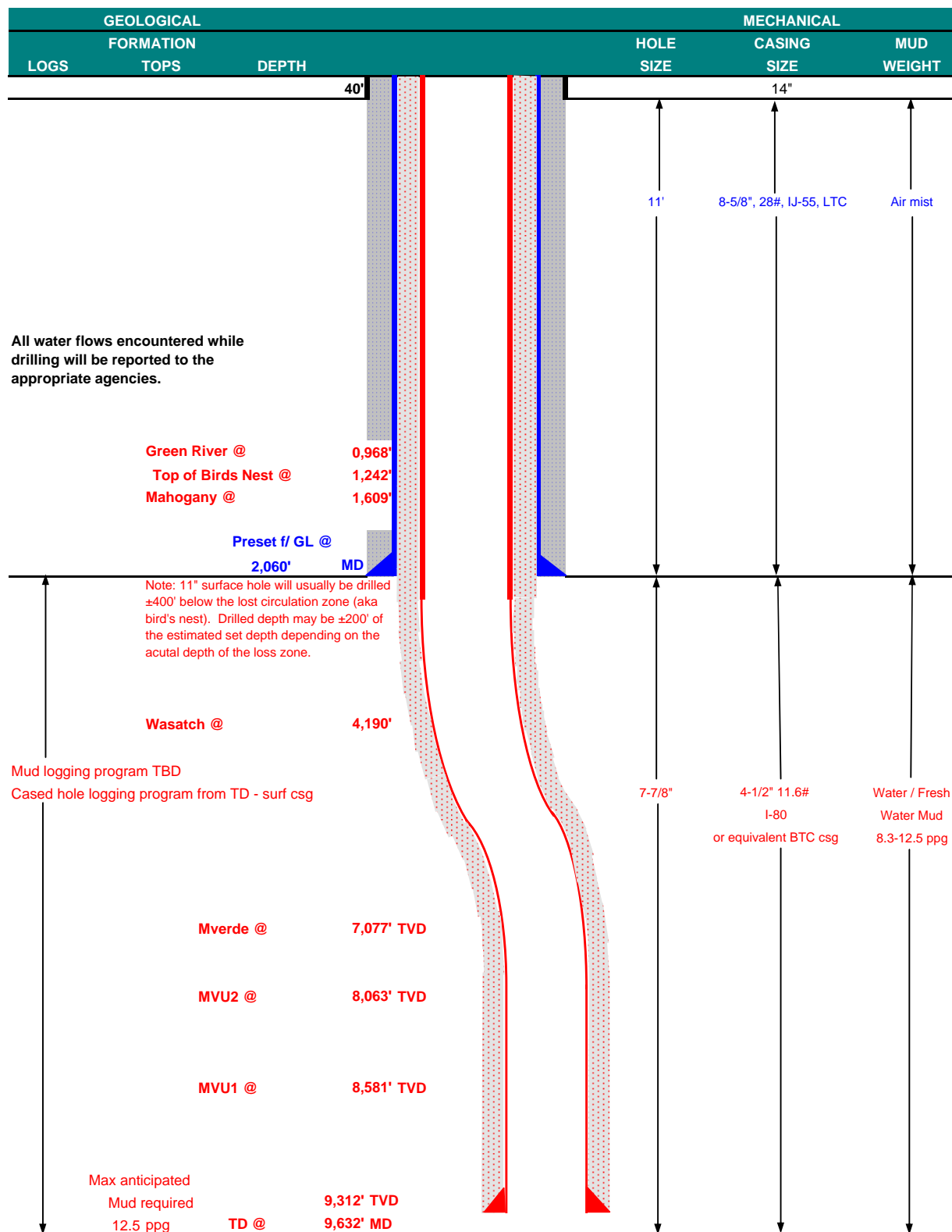
10. **Other Information:**

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	February 10, 2011		
WELL NAME	NBU 1021-32D4BS					TD	9,312'	TVD	9,632' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5328.9
SURFACE LOCATION	SENW	1860 FNL	2105 FWL	Sec 32	T 10S	R 21E			
	Latitude: 39.906191		Longitude: -109.576837		NAD 27				
BTM HOLE LOCATION	NWNW	825 FNL	842 FWL	Sec 32	T 10S	R 21E			
	Latitude: 39.909022		Longitude: -109.581311		NAD 27				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.								





KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,060	28.00	IJ-55	LTC	2.63	1.95	5.97
						7,780	6,350	367,000
PRODUCTION	4-1/2"	0 to 9,632	11.60	I-80	BTC	1.11	1.05	4.06

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi)

0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	1,560'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,682'	Premium Lite II +0.25 pps	270	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,950'	50/50 Poz/G + 10% salt + 2% gel	1,150	10%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Nick Spence / Emile Goodwin

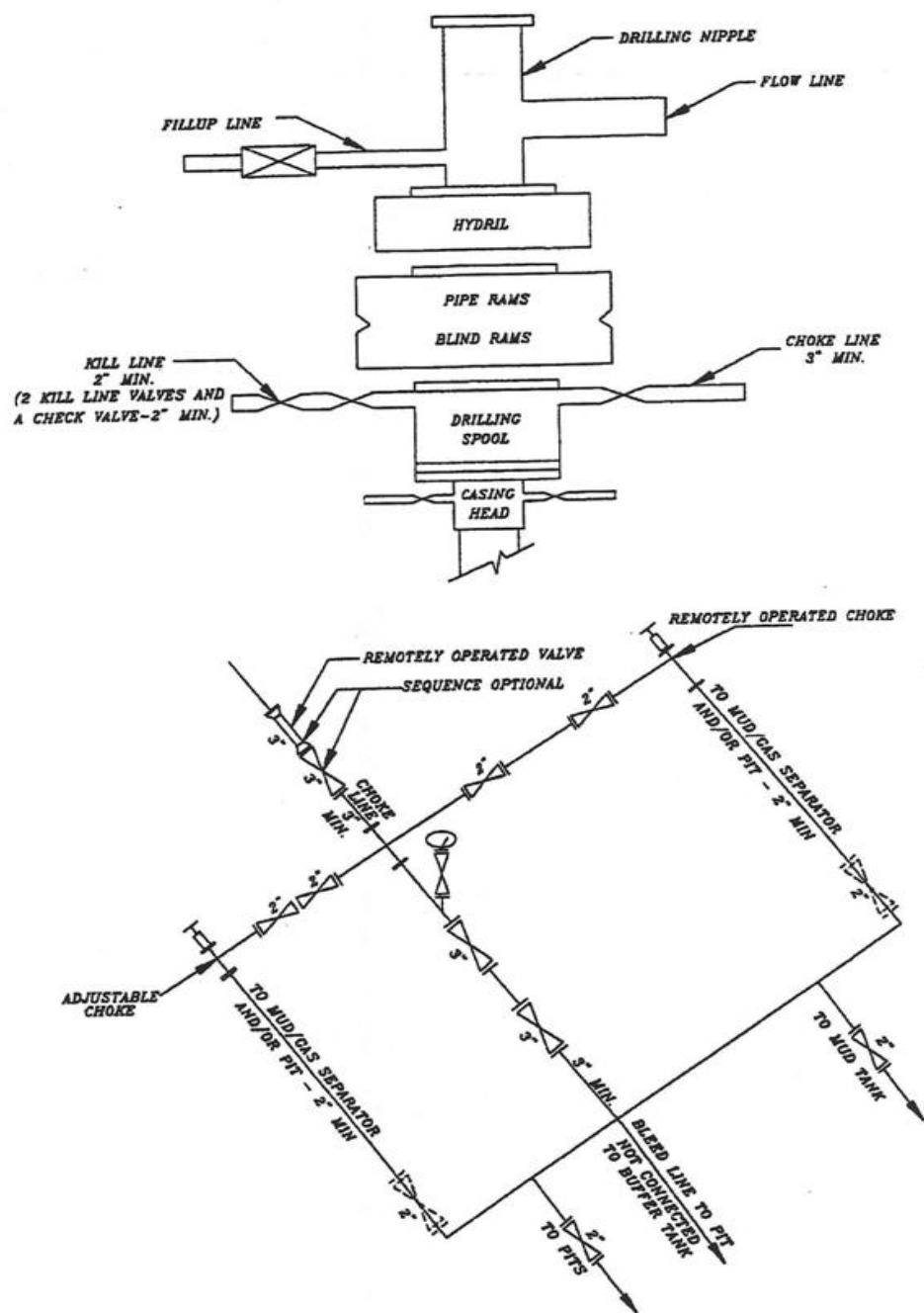
DATE:

DRILLING SUPERINTENDENT:

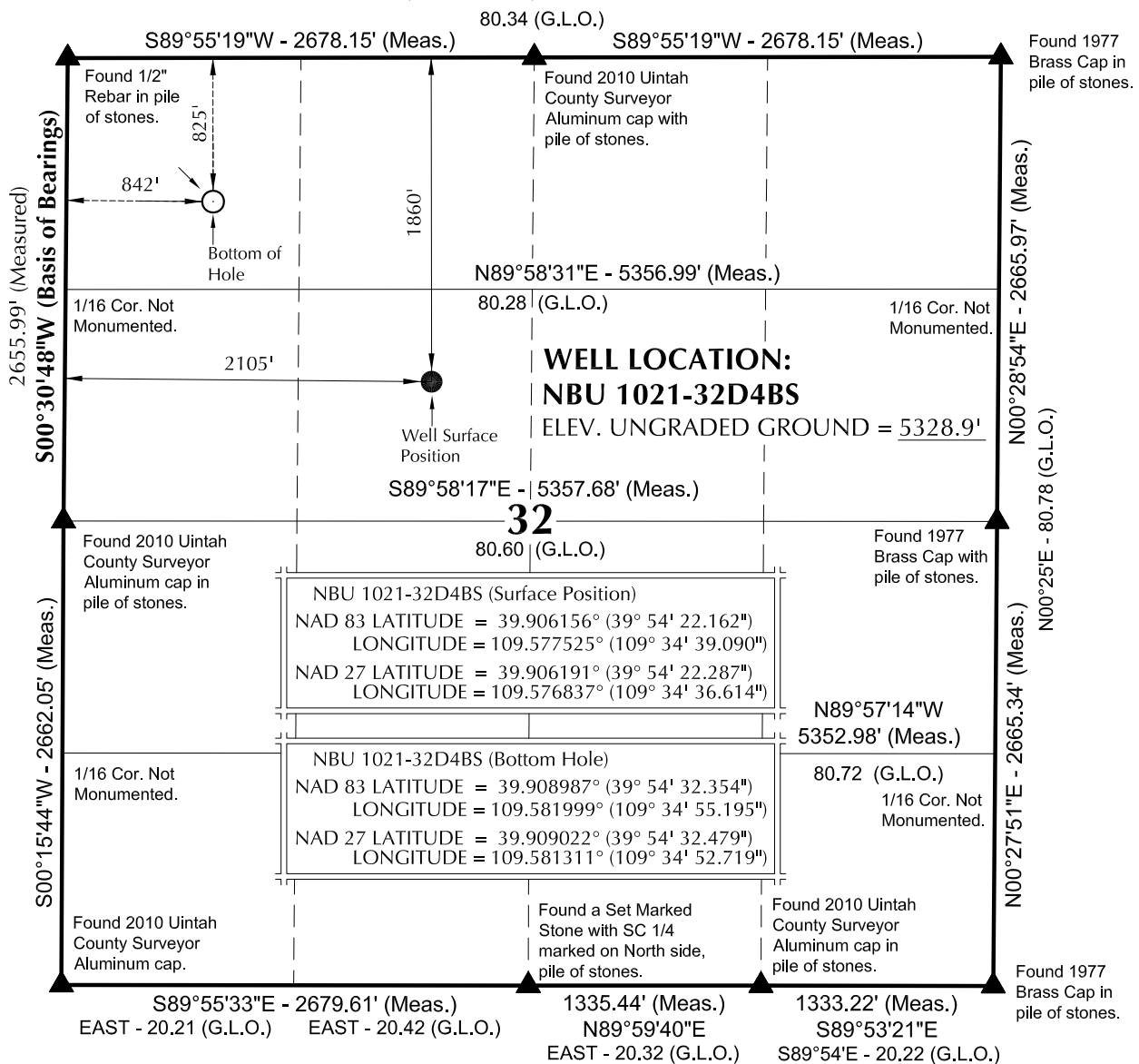
Kenny Gathings / Lovel Young

DATE:

EXHIBIT A
NBU 1021-32D4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

T10S, R21E, S.L.B.&M.**NOTES:**

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- The Bottom of hole bears N50°30'56"W 1624.81' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW $\frac{1}{4}$ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

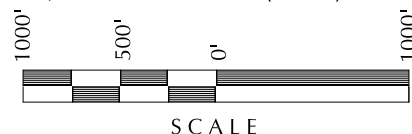
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD: NBU 1021-32F

NBU 1021-32D4BS
WELL PLAT

825' FNL, 842' FWL (Bottom Hole)
NW $\frac{1}{4}$ NW $\frac{1}{4}$ OF SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH.

CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

**SURVEYOR'S CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John R. Slough
No. 6028691
JOHN R. SLOUGH
PROFESSIONAL LAND SURVEYOR
REGISTRATION NO. 6028691
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

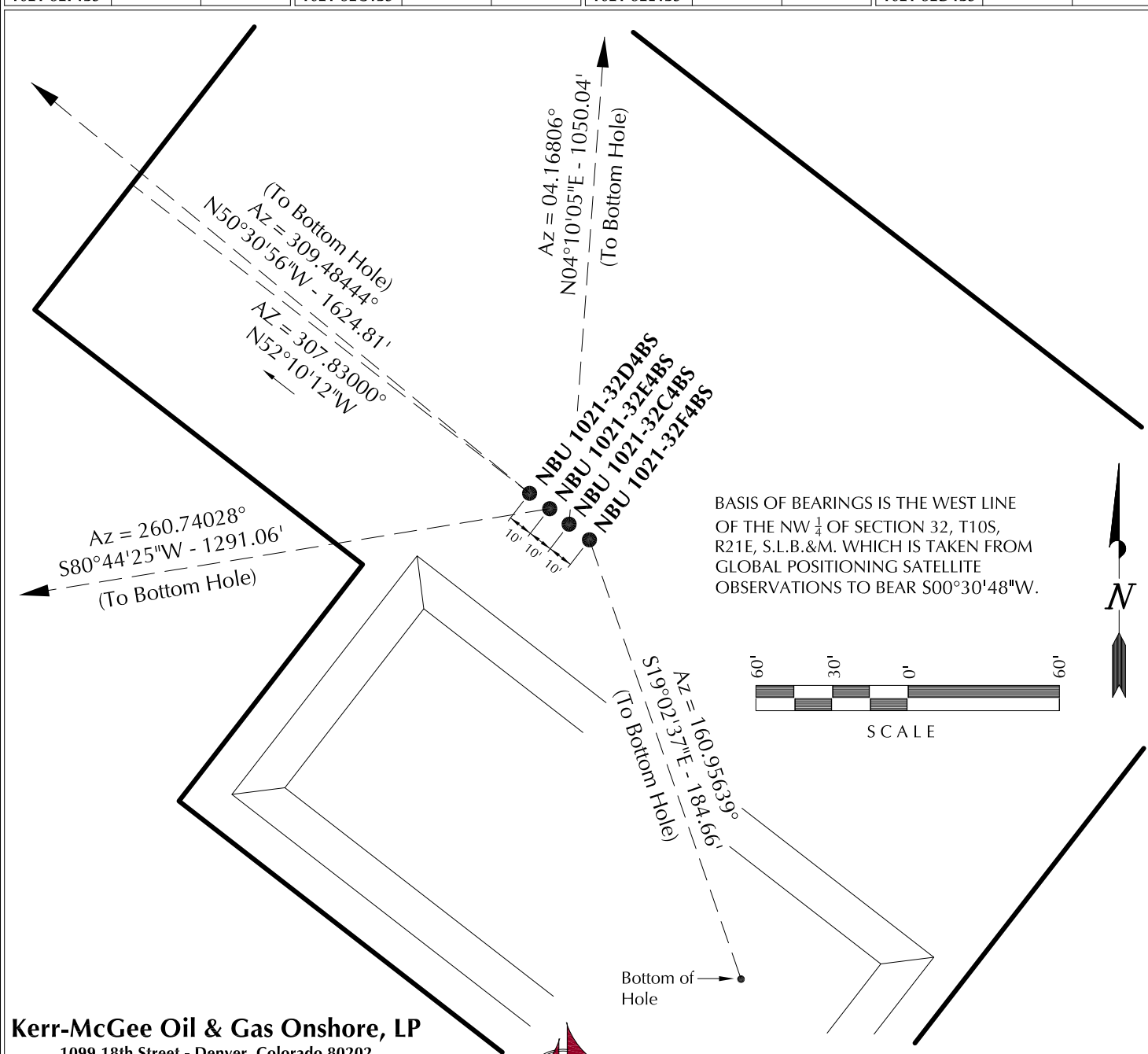
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-27-10	SURVEYED BY: M.S.B.	SHEET NO:
DATE DRAWN: 11-04-10	DRAWN BY: K.H.G.	4
SCALE: 1" = 1000'	Date Last Revised:	4 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1021-32F4BS	39°54'21.980"	109°34'38.785"	39°54'22.105"	109°34'36.309"	1878' FNL	39°54'20.257"	109°34'38.009"	39°54'20.381"	109°34'35.533"	2053' FNL
NBU 1021-32C4BS	39°54'22.042"	109°34'38.888"	39°54'22.166"	109°34'36.412"	2129' FWL	39°54'32.389"	109°34'37.926"	39°54'32.514"	109°34'35.450"	2191' FWL
NBU 1021-32E4BS	39°54'22.102"	109°34'38.987"	39°54'22.227"	109°34'36.511"	2121' FWL	39°54'20.033"	109°34'55.330"	39°54'20.158"	109°34'52.854"	2188' FWL
NBU 1021-32D4BS	39°54'22.162"	109°34'39.090"	39°54'22.287"	109°34'36.614"	1866' FNL	39°54'32.354"	109°34'55.195"	39°54'32.479"	109°34'52.719"	2072' FNL
NBU 1021-32F4BS	39°54'22.162"	109°34'39.090"	39°54'22.287"	109°34'36.614"	2113' FWL	39°54'32.354"	109°34'55.195"	39°54'32.479"	109°34'52.719"	841' FWL
NBU 1021-32D4BS	39°54'22.162"	109°34'39.090"	39°54'22.287"	109°34'36.614"	2105' FWL	39°54'32.354"	109°34'55.195"	39°54'32.479"	109°34'52.719"	825' FNL
NBU 1021-32D4BS	39°54'22.162"	109°34'39.090"	39°54'22.287"	109°34'36.614"	2105' FWL	39°54'32.354"	109°34'55.195"	39°54'32.479"	109°34'52.719"	842' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1021-32F4BS	-174.6'	60.3'	NBU 1021-32C4BS	1,047.3'	76.3'	NBU 1021-32E4BS	-207.7'	-1,274.2'	NBU 1021-32D4BS	1,033.2'	-1,254.0'



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-32F

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH.



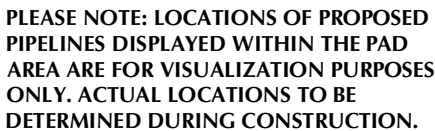
CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

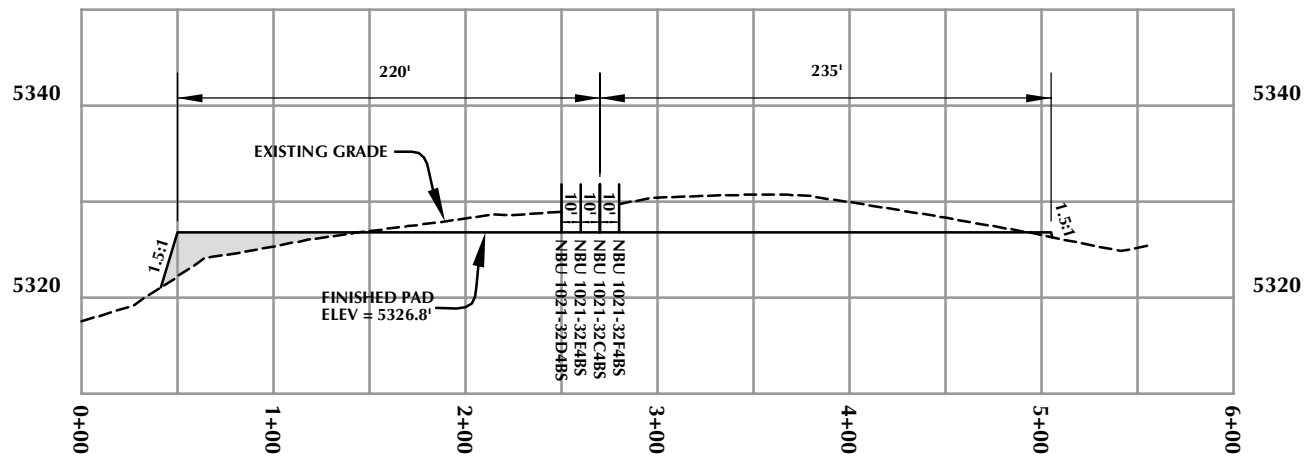
TIMBERLINE

(435) 789-1365

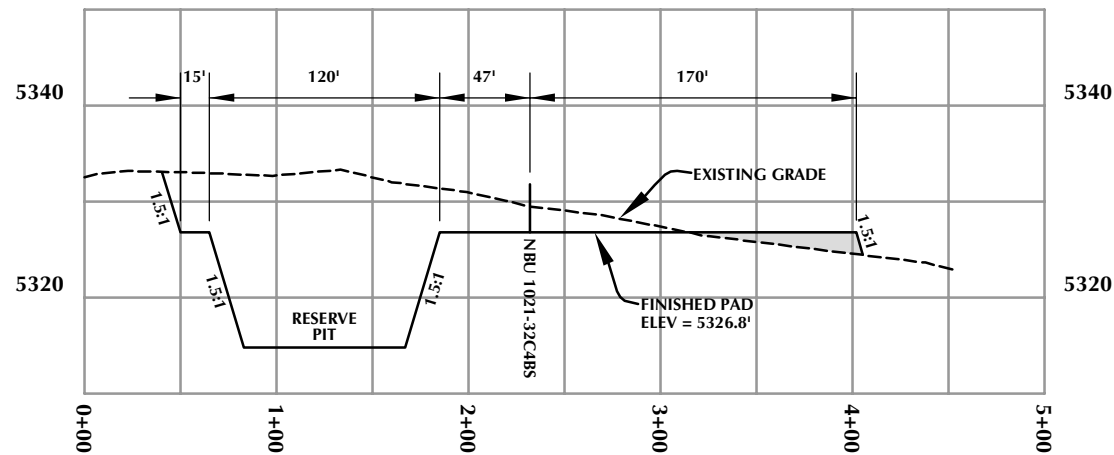
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 10-27-10	SURVEYED BY: M.S.B.	SHEET NO: 5 5 OF 16
DATE DRAWN: 11-04-10	DRAWN BY: K.H.G.	
SCALE: 1" = 60'	Date Last Revised:	





CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-32F

WELL PAD - CROSS SECTIONS

**NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH**



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

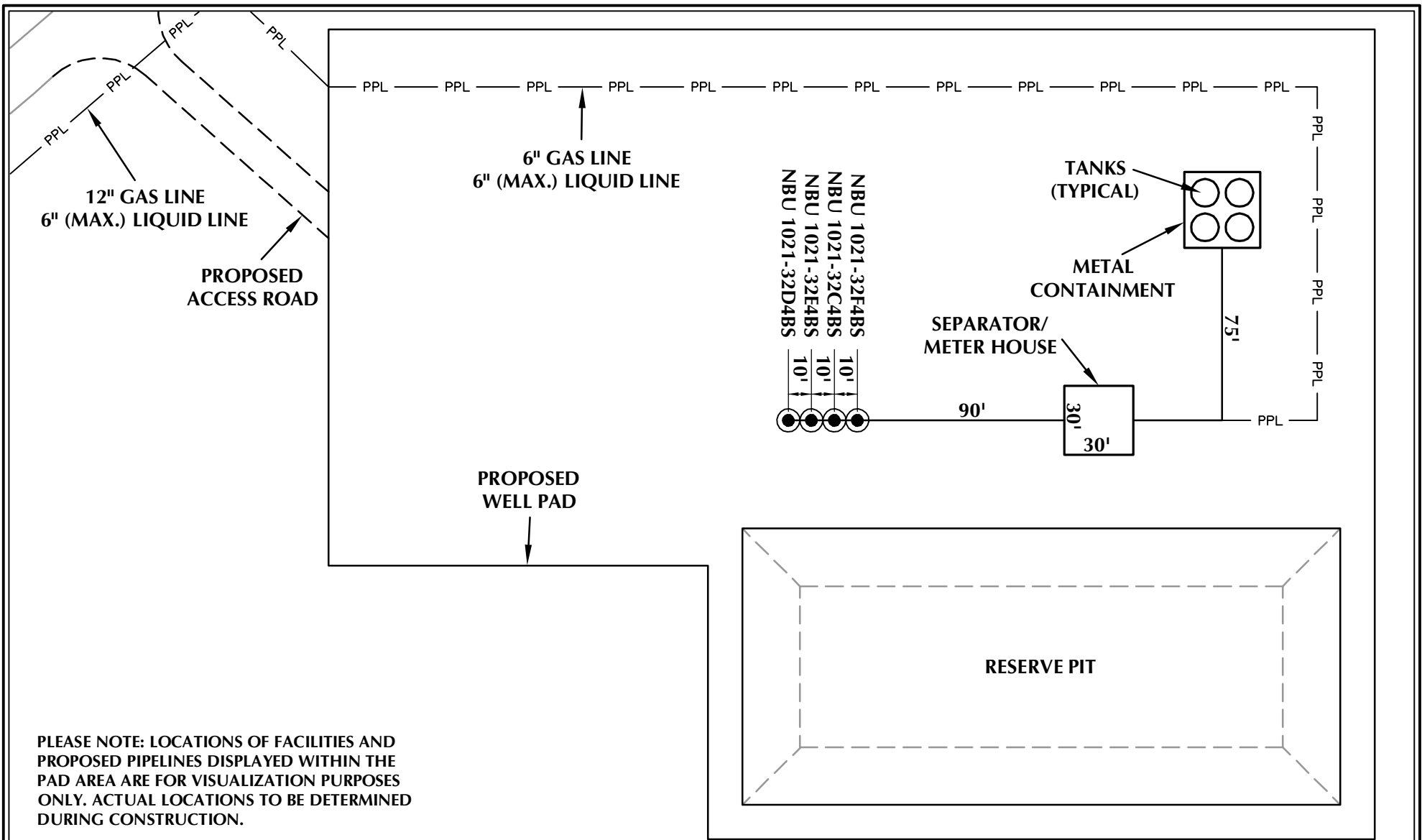
TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

Scale: 1"=100'	Date: 11/16/10	SHEET NO:
REVISED:		7 7 OF 16

RECEIVED: May. 31, 2011



PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-32F

WELL PAD - FACILITIES DIAGRAM

**NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH**



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Phone 307-674-0609
Fax 307-674-0182

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE



HORIZONTAL 0 30' 60' 1" = 60'

TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

Scale: 1"=60'

Date: 11/16/10

SHEET NO:

8

8 OF 16

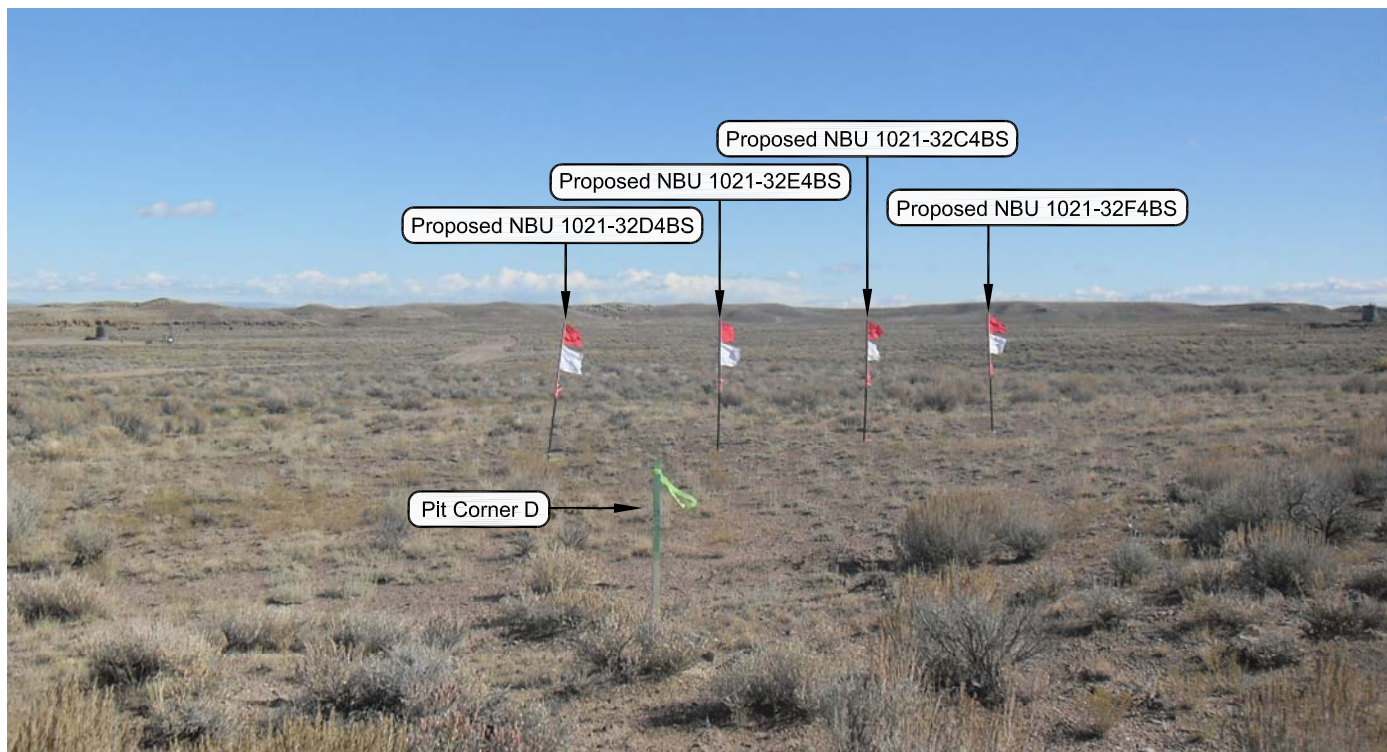


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-32F

LOCATION PHOTOS
NBU 1021-32F4BS, NBU 1021-32C4BS,
NBU 1021-32E4BS & NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH.



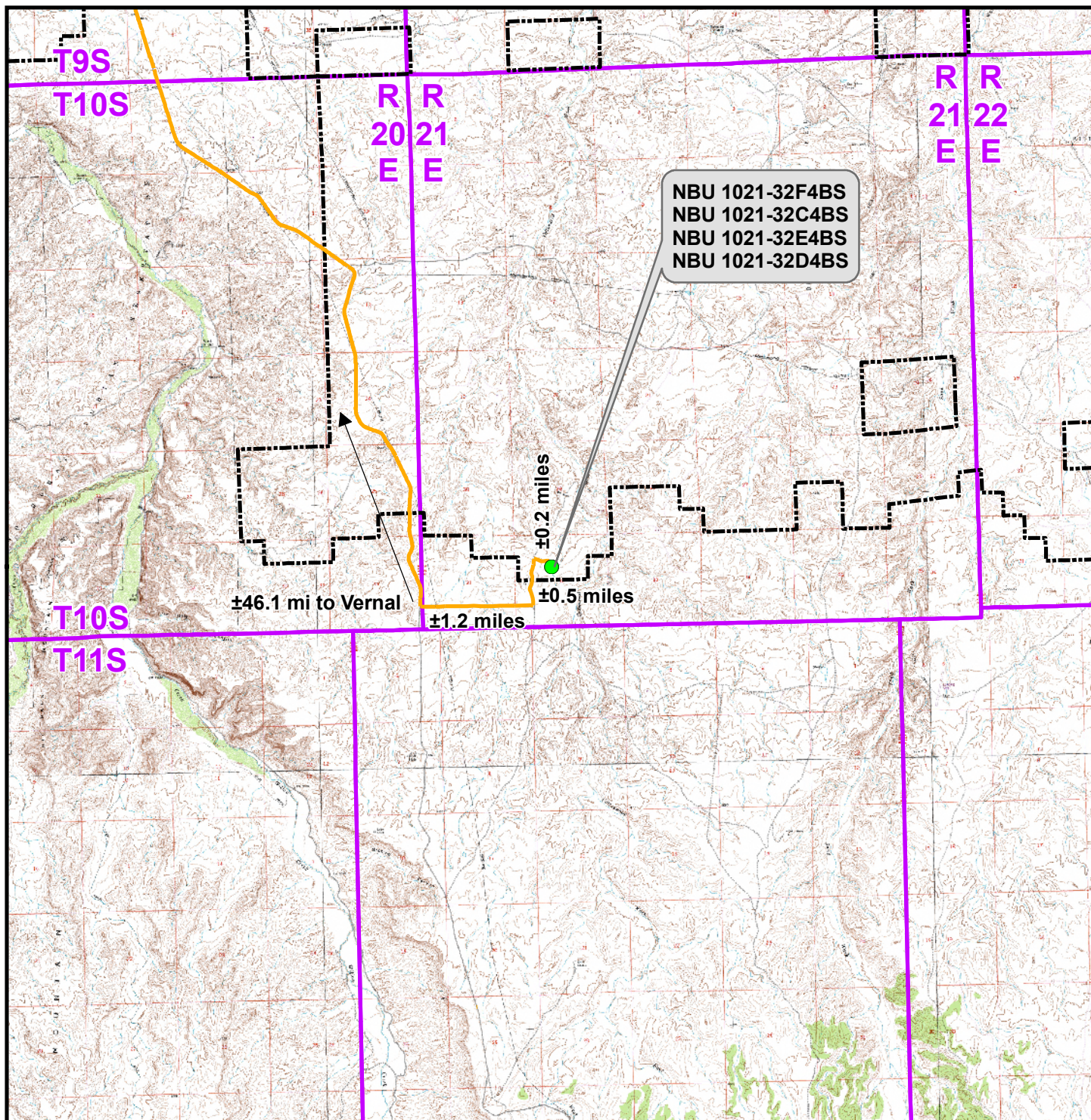
CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 10-27-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: 9 9 OF 16
DATE DRAWN: 11-04-10	DRAWN BY: K.H.G.	
Date Last Revised:		



Legend

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

Distance From Well Pad - NBU 1021-32F To Unit Boundary: ±781ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-32F

TOPO A
NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



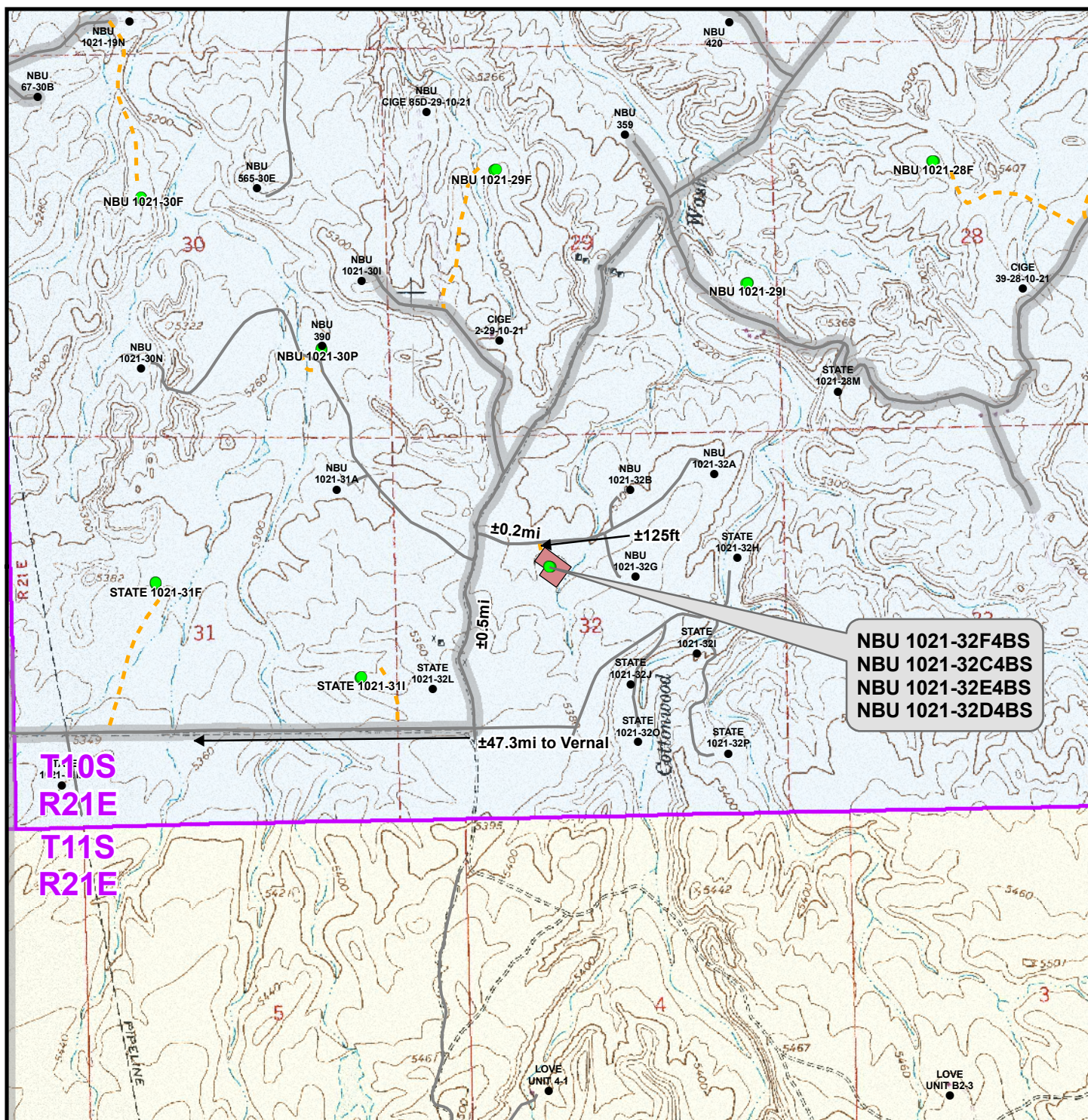
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central
Drawn: JFE	Date: 16 Nov 2010
Revised:	Date:

Sheet No:

10 10 of 16



Legend

- | | | | | | |
|-------------------|------------|-----------------------|---------------|-----------------------------|-----------|
| ● Well - Proposed | ■ Well Pad | - - - Road - Proposed | — County Road | ■ Bureau of Land Management | ■ State |
| ● Well - Existing | | — Road - Existing | | ■ Indian Reservation | □ Private |

Total Proposed Road Length: ±125ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-32F

TOPO B

NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



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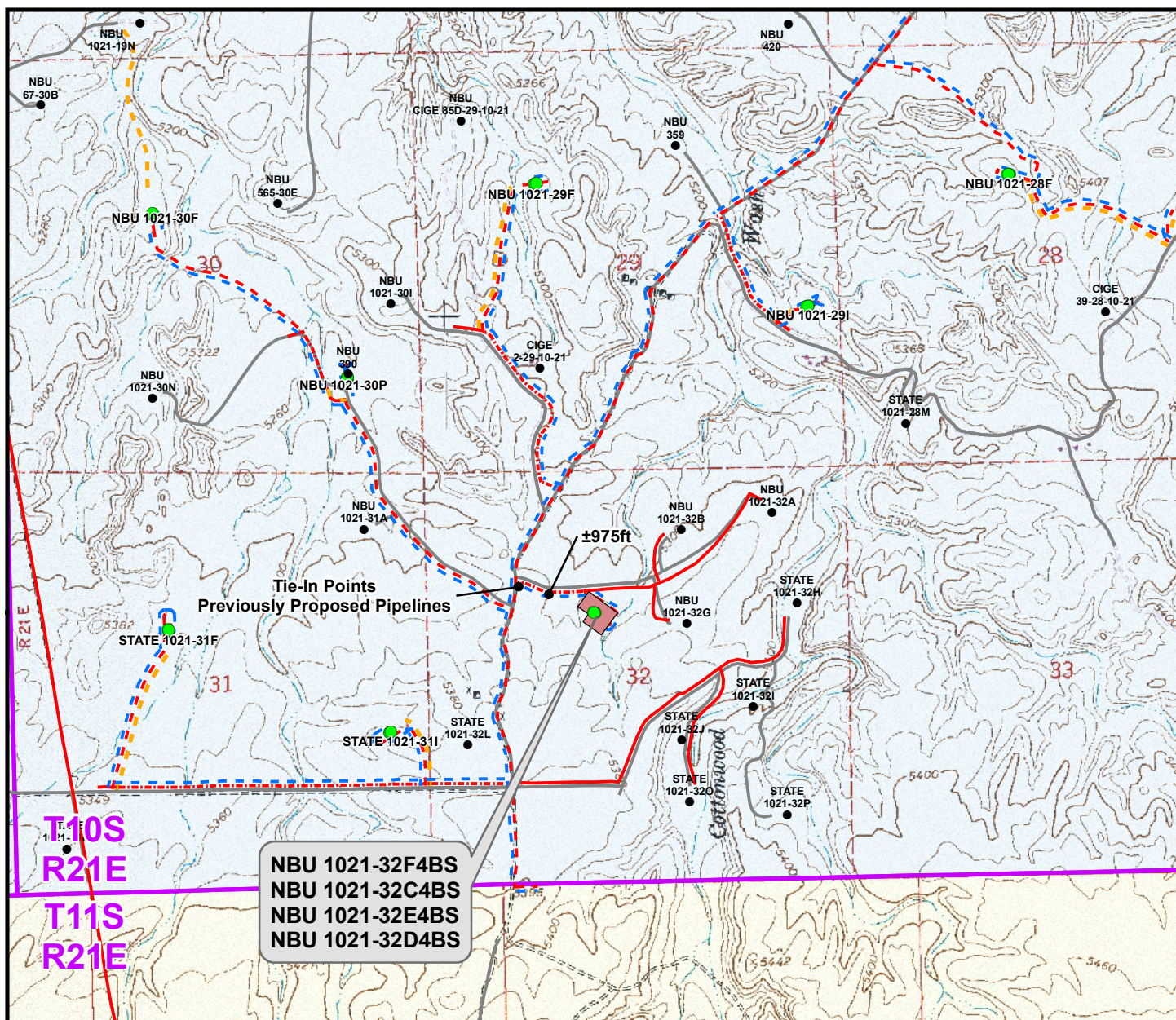


Scale: 1" = 2,000ft	NAD83 USP Central
Drawn: JFE	Date: 16 Nov 2010
Revised:	Date:

Sheet No:

11

11 of 16



Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Proposed 6" (Max.) (Meter House to Edge of Pad)		±670ft	Proposed 6" (Meter House to Edge of Pad)		±670ft
Proposed 6" (Max.) (Edge of Pad to Road Intersection)		±65ft	Proposed 6" (Edge of Pad to Road Intersection)		±65ft
Proposed 6" (Max.) (Road Intersection to Previously Proposed Liquid Pipeline)		±910ft	Proposed 12" (Road Intersection to Previously Proposed 16" Gas Pipeline)		±910ft
TOTAL PROPOSED LIQUID PIPELINE =		±1,645ft	TOTAL PROPOSED GAS PIPELINE =		±1,645ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- - - Gas Pipeline - Proposed
- - - Gas Pipeline - To Be Upgraded
- - - Gas Pipeline - Existing
- - - Liquid Pipeline - Proposed
- - - Liquid Pipeline - Existing
- - - Road - Proposed
- - - Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

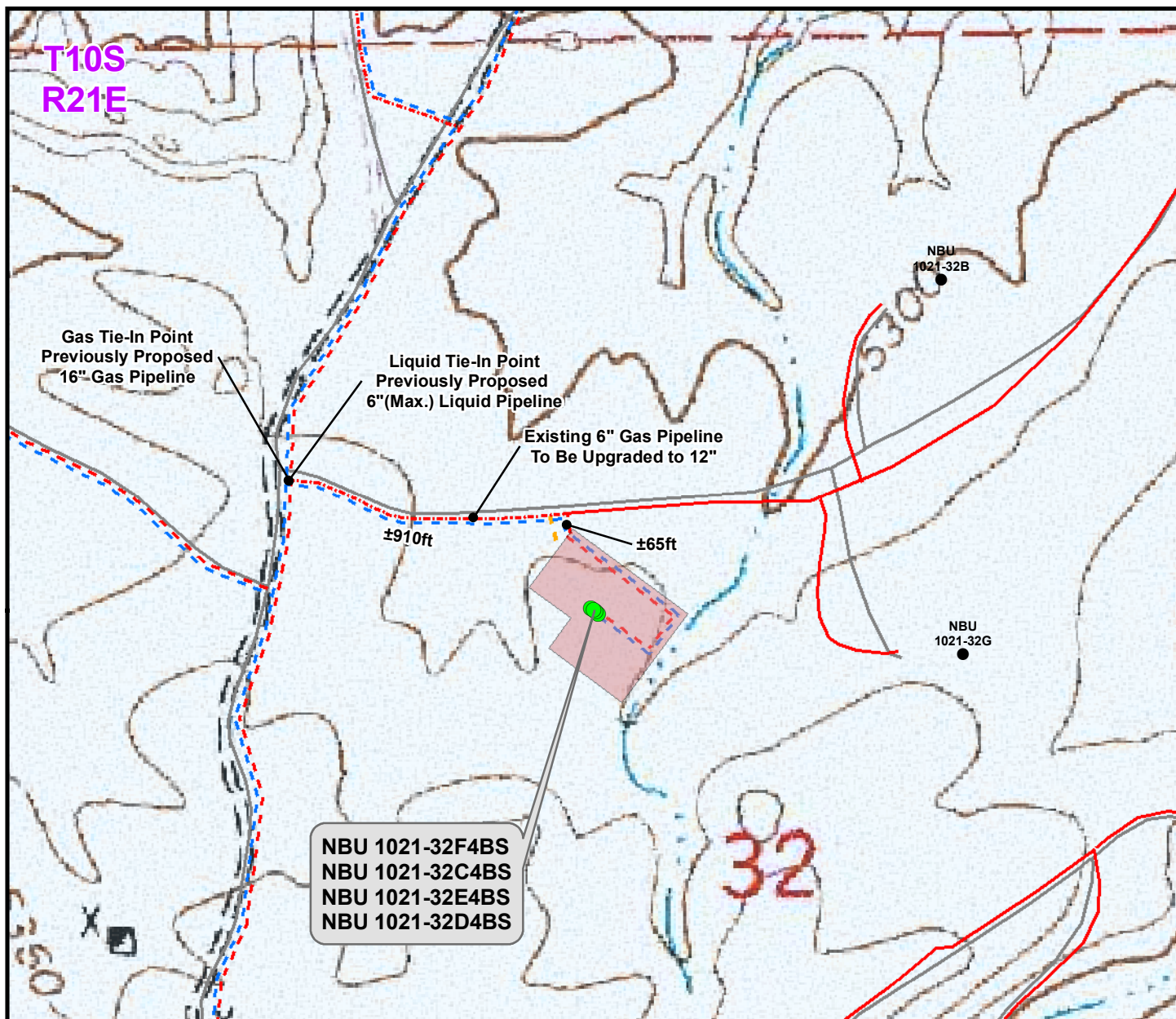
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-32F

TOPO D
NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH



Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No:
Drawn: JFE | Date: 16 Nov 2010 | **13**
Revised: | Date: | 13 of 16



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±670ft
Proposed 6" (Max.) (Edge of Pad to Road Intersection)	±65ft
Proposed 6" (Max.) (Road Intersection to Previously Proposed Liquid Pipeline)	±910ft
TOTAL PROPOSED LIQUID PIPELINE =	±1,645ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±670ft
Proposed 6" (Edge of Pad to Road Intersection)	±65ft
Proposed 12" (Road Intersection to Previously Proposed 16" Gas Pipeline)	±910ft
TOTAL PROPOSED GAS PIPELINE =	±1,645ft

Legend

- Well - Proposed
 Well Pad
 --- Gas Pipeline - Proposed
 --- Liquid Pipeline - Proposed
 --- Road - Proposed
 Bureau of Land Management
- Well - Existing
 --- Gas Pipeline - To Be Upgraded
 --- Liquid Pipeline - Existing
 --- Road - Existing
 Indian Reservation
- Gas Pipeline - Existing
 State
 Private

Kerr-McGee Oil & Gas Onshore, LP
 1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-32F

TOPO D2 (PAD & PIPELINE DETAIL)

NBU 1021-32F4BS,

NBU 1021-32C4BS, NBU 1021-32E4BS &

NBU 1021-32D4BS

LOCATED IN SECTION 32, T10S, R21E,
 S.L.B.&M., UTAH COUNTY, UTAH

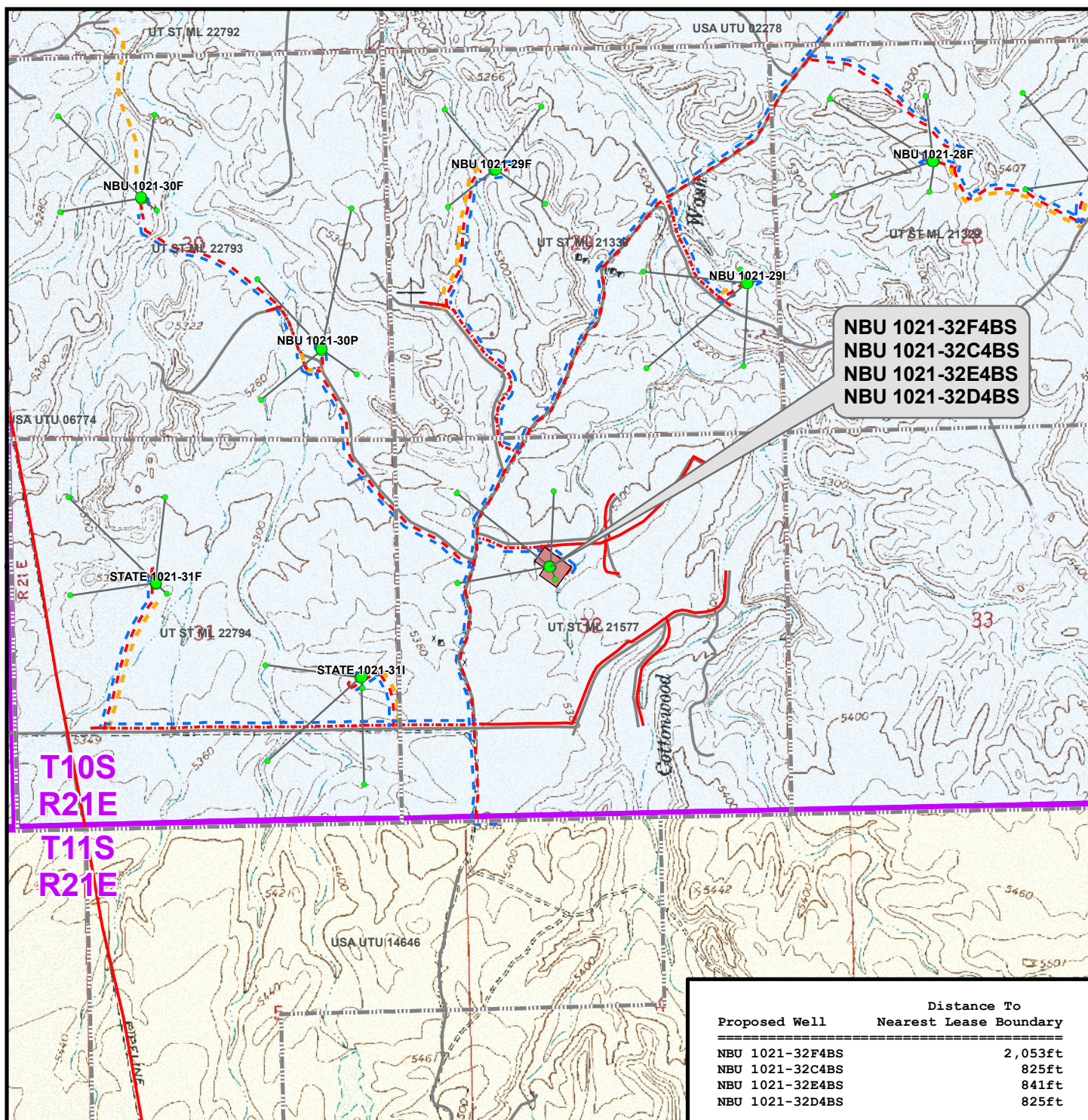


Scale: 1" = 500ft	NAD83 USP Central
Drawn: JFE	Date: 16 Nov 2010
Revised:	Date:

Sheet No:

14

14 of 16



Proposed Well	Distance To Nearest Lease Boundary
NBU 1021-32F4BS	2,053ft
NBU 1021-32C4BS	825ft
NBU 1021-32E4BS	841ft
NBU 1021-32D4BS	825ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- ▬ Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1021-32F

TOPO E
NBU 1021-32F4BS,
NBU 1021-32C4BS, NBU 1021-32E4BS &
NBU 1021-32D4BS
LOCATED IN SECTION 32, T10S, R21E,
S.L.B.&M., UTAH COUNTY, UTAH

609

CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2,000ft | NAD83 USP Central
Drawn: JFE | Date: 16 Nov 2010
Revised: | Date:

Sheet No:

15 15 of 16

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – NBU 1021-32F
WELLS – NBU 1021-32F4BS, NBU 1021-32C4BS,
NBU 1021-32E4BS & NBU 1021-32D4BS
Section 32, T10S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and Vernal Avenue in Vernal, Utah, proceed in a westerly direction along U.S. Highway 40 approximately 13.9 miles to the junction of State Highway 88. Exit left and proceed in a southerly direction along State Highway 88 approximately 16.8 miles to Ouray, Utah. From Ouray, proceed in a southerly direction along the Seep Ridge Road (County B Road 2810) approximately 15.4 miles to the intersection of a Class D County Road to the east. Exit left and proceed in an easterly direction along the Class D County Road approximately 1.2 miles to the intersection of the Cottonwood Road (Class D County Road) to the north. Exit left and proceed in a northerly direction along the Cottonwood Road approximately 0.5 miles to a service road to the east. Exit right and proceed in an easterly direction along the service road approximately 0.2 miles to the proposed access road. Follow road flags in a southerly direction approximately 125 feet to the proposed location.

Total distance from Vernal, Utah to the proposed well location is approximately 48.0 miles in a southerly direction.

WELL DETAILS: NBU 1021-32D4BS

GL 5327' & KB 4'
 @ 5331.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14495065.96	2039537.49	39° 54' 22.288 N	109° 34' 36.613 W

DESIGN TARGET DETAILS

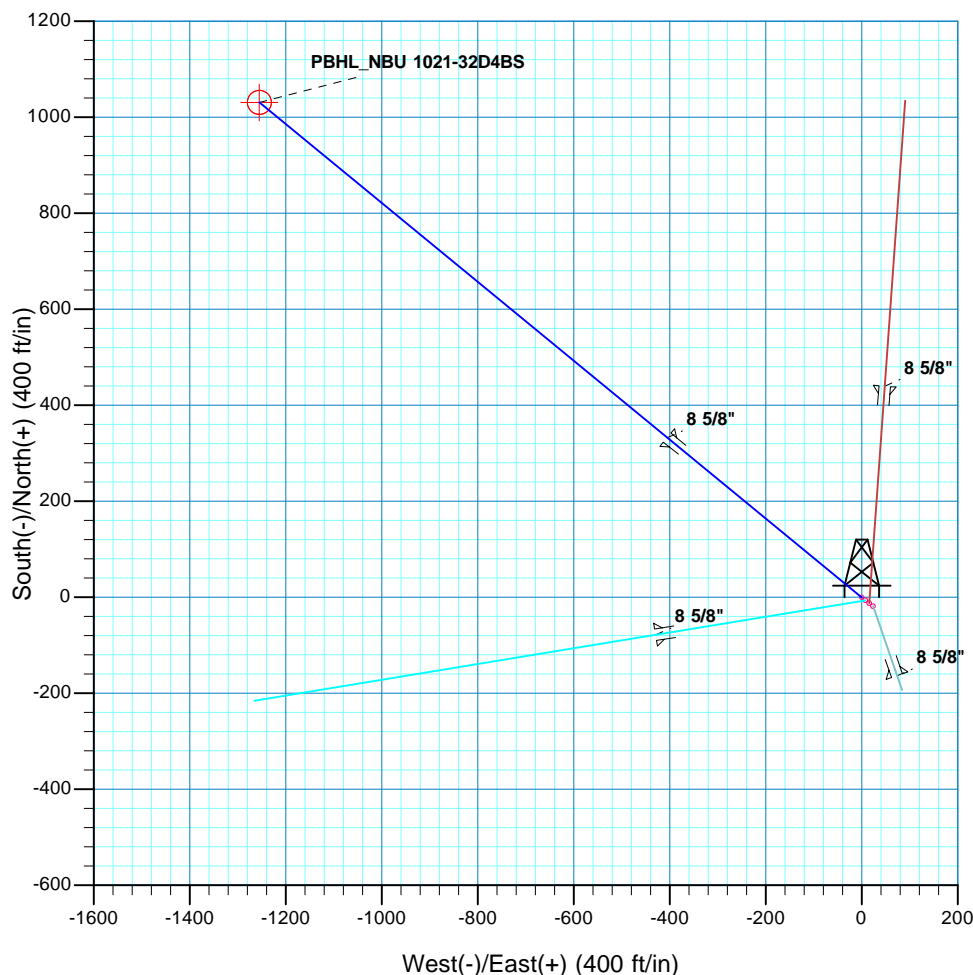
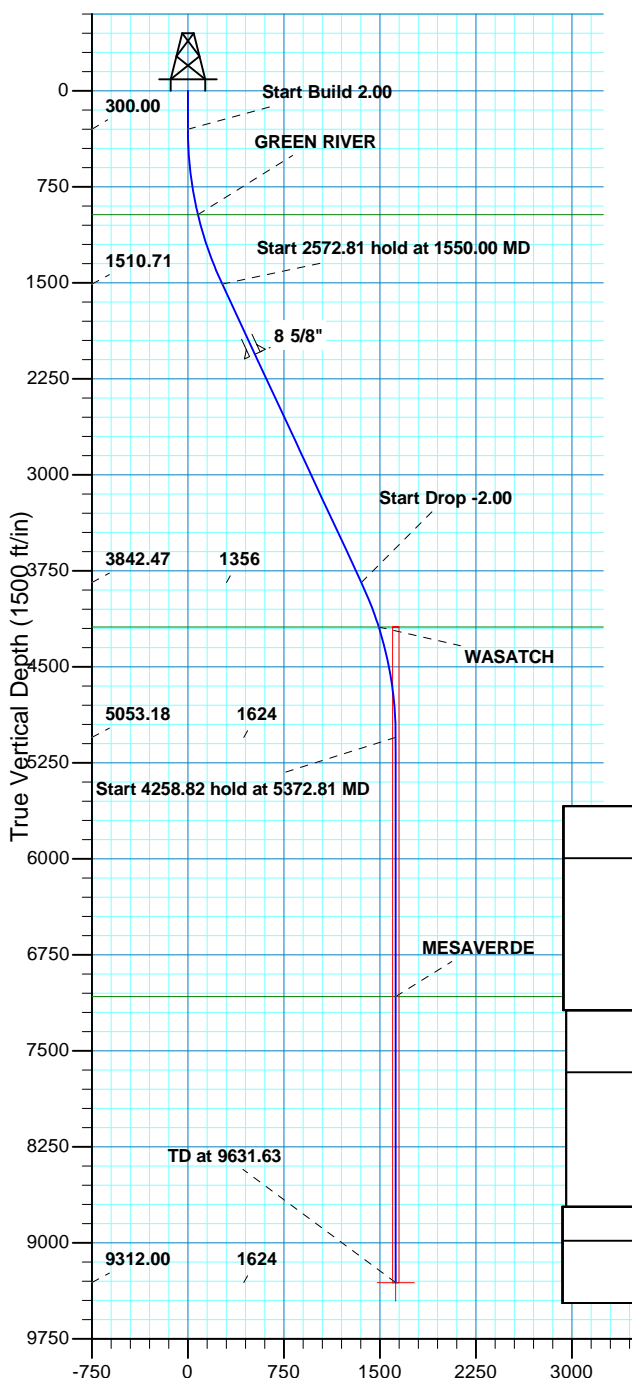
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	9312.00	1031.07	-1254.87	14496076.89	2038266.34	39° 54' 32.479 N	109° 34' 52.720 W	Circle (Radius: 25.00)

- plan hits target center



Azimuths to True North
 Magnetic North: 11.14°

Magnetic Field
 Strength: 52302.3snT
 Dip Angle: 65.79°
 Date: 01/27/2011
 Model: IGRF2010



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
1550.00	25.00	309.41	1510.71	170.40	-207.38	2.00	309.41	268.41
4122.81	25.00	309.41	3842.47	860.67	-1047.49	0.00	0.00	1355.72
5372.81	0.00	0.00	5053.18	1031.07	-1254.87	2.00	180.00	1624.13
9631.63	0.00	0.00	9312.00	1031.07	-1254.87	0.00	0.00	1624.13

PBHL_NBU 1021-32D4BS

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 12N (114 W to 108 W)
 Location: SECTION 32 T10S R21E
 System Datum: Mean Sea Level

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
968.00	974.21	GREEN RIVER
4190.00	4496.00	WASATCH
7077.00	7396.63	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2059.00	2154.97	8 5/8"	8.625



US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

UINTAH_STATE 1021-32F PAD

NBU 1021-32D4BS

NBU 1021-32D4BS

Plan: PLAN #1 1-27-11 RHS

Standard Planning Report

27 January, 2011





SDI Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_STATE 1021-32F PAD, SECTION 32 T10S R21E		
Site Position:		Northing:	14,495,059.89 usft
From:	Lat/Long	Easting:	2,039,545.43 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Grid Convergence:	0.91 °

Well	NBU 1021-32D4BS, 1860 FNL 2105 FWL		
Well Position	+N/-S	6.20 ft	Northing: 14,495,065.96 usft
	+E/-W	-7.85 ft	Easting: 2,039,537.48 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	5,327.00 ft

Wellbore	NBU 1021-32D4BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/27/2011	11.14	65.79	52,302

Design	PLAN #1 1-27-11 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	309.41

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,550.00	25.00	309.41	1,510.71	170.40	-207.38	2.00	2.00	0.00	309.41	
4,122.81	25.00	309.41	3,842.47	860.67	-1,047.49	0.00	0.00	0.00	0.00	
5,372.81	0.00	0.00	5,053.18	1,031.07	-1,254.87	2.00	-2.00	0.00	180.00	
9,631.63	0.00	0.00	9,312.00	1,031.07	-1,254.87	0.00	0.00	0.00	0.00	PBHL_NBU 1021-32C



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	309.41	399.98	1.11	-1.35	1.75	2.00	2.00	0.00
500.00	4.00	309.41	499.84	4.43	-5.39	6.98	2.00	2.00	0.00
600.00	6.00	309.41	599.45	9.96	-12.13	15.69	2.00	2.00	0.00
700.00	8.00	309.41	698.70	17.70	-21.54	27.88	2.00	2.00	0.00
800.00	10.00	309.41	797.47	27.63	-33.63	43.52	2.00	2.00	0.00
900.00	12.00	309.41	895.62	39.74	-48.37	62.60	2.00	2.00	0.00
974.21	13.48	309.41	968.00	50.13	-61.01	78.97	2.00	2.00	0.00
GREEN RIVER									
1,000.00	14.00	309.41	993.06	54.02	-65.75	85.10	2.00	2.00	0.00
1,100.00	16.00	309.41	1,089.64	70.45	-85.75	110.98	2.00	2.00	0.00
1,200.00	18.00	309.41	1,185.27	89.01	-108.33	140.21	2.00	2.00	0.00
1,300.00	20.00	309.41	1,279.82	109.68	-133.49	172.77	2.00	2.00	0.00
1,400.00	22.00	309.41	1,373.17	132.43	-161.18	208.60	2.00	2.00	0.00
1,500.00	24.00	309.41	1,465.21	157.23	-191.36	247.67	2.00	2.00	0.00
1,550.00	25.00	309.41	1,510.71	170.40	-207.38	268.41	2.00	2.00	0.00
Start 2572.81 hold at 1550.00 MD									
1,600.00	25.00	309.41	1,556.03	183.81	-223.71	289.54	0.00	0.00	0.00
1,700.00	25.00	309.41	1,646.66	210.64	-256.36	331.80	0.00	0.00	0.00
1,800.00	25.00	309.41	1,737.29	237.47	-289.02	374.06	0.00	0.00	0.00
1,900.00	25.00	309.41	1,827.92	264.30	-321.67	416.32	0.00	0.00	0.00
2,000.00	25.00	309.41	1,918.55	291.13	-354.32	458.59	0.00	0.00	0.00
2,100.00	25.00	309.41	2,009.18	317.96	-386.98	500.85	0.00	0.00	0.00
2,154.97	25.00	309.41	2,059.00	332.71	-404.93	524.08	0.00	0.00	0.00
8 5/8"									
2,200.00	25.00	309.41	2,099.81	344.79	-419.63	543.11	0.00	0.00	0.00
2,300.00	25.00	309.41	2,190.44	371.62	-452.28	585.37	0.00	0.00	0.00
2,400.00	25.00	309.41	2,281.07	398.45	-484.94	627.63	0.00	0.00	0.00
2,500.00	25.00	309.41	2,371.70	425.28	-517.59	669.90	0.00	0.00	0.00
2,600.00	25.00	309.41	2,462.34	452.11	-550.24	712.16	0.00	0.00	0.00
2,700.00	25.00	309.41	2,552.97	478.94	-582.90	754.42	0.00	0.00	0.00
2,800.00	25.00	309.41	2,643.60	505.77	-615.55	796.68	0.00	0.00	0.00
2,900.00	25.00	309.41	2,734.23	532.60	-648.20	838.94	0.00	0.00	0.00
3,000.00	25.00	309.41	2,824.86	559.43	-680.86	881.20	0.00	0.00	0.00
3,100.00	25.00	309.41	2,915.49	586.26	-713.51	923.47	0.00	0.00	0.00
3,200.00	25.00	309.41	3,006.12	613.09	-746.16	965.73	0.00	0.00	0.00
3,300.00	25.00	309.41	3,096.75	639.92	-778.82	1,007.99	0.00	0.00	0.00
3,400.00	25.00	309.41	3,187.38	666.74	-811.47	1,050.25	0.00	0.00	0.00
3,500.00	25.00	309.41	3,278.01	693.57	-844.12	1,092.51	0.00	0.00	0.00
3,600.00	25.00	309.41	3,368.64	720.40	-876.78	1,134.78	0.00	0.00	0.00
3,700.00	25.00	309.41	3,459.27	747.23	-909.43	1,177.04	0.00	0.00	0.00
3,800.00	25.00	309.41	3,549.90	774.06	-942.08	1,219.30	0.00	0.00	0.00
3,900.00	25.00	309.41	3,640.54	800.89	-974.73	1,261.56	0.00	0.00	0.00
4,000.00	25.00	309.41	3,731.17	827.72	-1,007.39	1,303.82	0.00	0.00	0.00
4,100.00	25.00	309.41	3,821.80	854.55	-1,040.04	1,346.09	0.00	0.00	0.00
4,122.81	25.00	309.41	3,842.47	860.67	-1,047.49	1,355.72	0.00	0.00	0.00
Start Drop -2.00									



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	23.46	309.41	3,912.86	880.78	-1,071.96	1,387.40	2.00	-2.00	0.00
4,300.00	21.46	309.41	4,005.27	905.03	-1,101.47	1,425.60	2.00	-2.00	0.00
4,400.00	19.46	309.41	4,098.96	927.21	-1,128.48	1,460.54	2.00	-2.00	0.00
4,496.00	17.54	309.41	4,190.00	946.55	-1,152.01	1,491.00	2.00	-2.00	0.00
WASATCH									
4,500.00	17.46	309.41	4,193.81	947.31	-1,152.94	1,492.20	2.00	-2.00	0.00
4,600.00	15.46	309.41	4,289.71	965.29	-1,174.82	1,520.53	2.00	-2.00	0.00
4,700.00	13.46	309.41	4,386.54	981.14	-1,194.11	1,545.49	2.00	-2.00	0.00
4,800.00	11.46	309.41	4,484.18	994.83	-1,210.77	1,567.06	2.00	-2.00	0.00
4,900.00	9.46	309.41	4,582.52	1,006.35	-1,224.79	1,585.20	2.00	-2.00	0.00
5,000.00	7.46	309.41	4,681.42	1,015.69	-1,236.16	1,599.91	2.00	-2.00	0.00
5,100.00	5.46	309.41	4,780.78	1,022.83	-1,244.84	1,611.15	2.00	-2.00	0.00
5,200.00	3.46	309.41	4,880.48	1,027.76	-1,250.85	1,618.92	2.00	-2.00	0.00
5,300.00	1.46	309.41	4,980.38	1,030.48	-1,254.16	1,623.21	2.00	-2.00	0.00
5,372.81	0.00	0.00	5,053.18	1,031.07	-1,254.87	1,624.13	2.00	-2.00	0.00
Start 4258.82 hold at 5372.81 MD									
5,400.00	0.00	0.00	5,080.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
5,500.00	0.00	0.00	5,180.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
5,600.00	0.00	0.00	5,280.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
5,700.00	0.00	0.00	5,380.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
5,800.00	0.00	0.00	5,480.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
5,900.00	0.00	0.00	5,580.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,000.00	0.00	0.00	5,680.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,100.00	0.00	0.00	5,780.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,200.00	0.00	0.00	5,880.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,300.00	0.00	0.00	5,980.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,400.00	0.00	0.00	6,080.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,500.00	0.00	0.00	6,180.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,600.00	0.00	0.00	6,280.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,700.00	0.00	0.00	6,380.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,800.00	0.00	0.00	6,480.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
6,900.00	0.00	0.00	6,580.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,000.00	0.00	0.00	6,680.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,100.00	0.00	0.00	6,780.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,200.00	0.00	0.00	6,880.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,300.00	0.00	0.00	6,980.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,396.63	0.00	0.00	7,077.00	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
MESAVERDE									
7,400.00	0.00	0.00	7,080.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,500.00	0.00	0.00	7,180.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,600.00	0.00	0.00	7,280.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,700.00	0.00	0.00	7,380.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,800.00	0.00	0.00	7,480.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
7,900.00	0.00	0.00	7,580.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,000.00	0.00	0.00	7,680.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,100.00	0.00	0.00	7,780.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,200.00	0.00	0.00	7,880.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,300.00	0.00	0.00	7,980.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,400.00	0.00	0.00	8,080.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,500.00	0.00	0.00	8,180.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,600.00	0.00	0.00	8,280.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,700.00	0.00	0.00	8,380.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,480.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
8,900.00	0.00	0.00	8,580.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,000.00	0.00	0.00	8,680.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,100.00	0.00	0.00	8,780.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,200.00	0.00	0.00	8,880.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,300.00	0.00	0.00	8,980.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,400.00	0.00	0.00	9,080.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,500.00	0.00	0.00	9,180.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,600.00	0.00	0.00	9,280.37	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
9,631.63	0.00	0.00	9,312.00	1,031.07	-1,254.87	1,624.13	0.00	0.00	0.00
TD at 9631.63 - PBHL_NBU 1021-32D4BS									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1021-32D4BS - plan hits target center - Circle (radius 25.00)	0.00	0.00	9,312.00	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,154.97	2,059.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
974.21	968.00	GREEN RIVER			
4,496.00	4,190.00	WASATCH			
7,396.63	7,077.00	MESAVERDE			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,550.00	1,510.71	170.40	-207.38	Start 2572.81 hold at 1550.00 MD
4,122.81	3,842.47	860.67	-1,047.49	Start Drop -2.00
5,372.81	5,053.18	1,031.07	-1,254.87	Start 4258.82 hold at 5372.81 MD
9,631.63	9,312.00	1,031.07	-1,254.87	TD at 9631.63



US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

UINTAH_STATE 1021-32F PAD

NBU 1021-32D4BS

NBU 1021-32D4BS

Plan: PLAN #1 1-27-11 RHS

Standard Planning Report - Geographic

27 January, 2011



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_STATE 1021-32F PAD, SECTION 32 T10S R21E		
Site Position:		Northing:	14,495,059.89 usft
From:	Lat/Long	Easting:	2,039,545.43 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 54' 22.226 N
		Longitude:	109° 34' 36.512 W
		Grid Convergence:	0.91 °

Well	NBU 1021-32D4BS, 1860 FNL 2105 FWL		
Well Position	+N/-S	0.00 ft	Northing: 14,495,065.96 usft
	+E/-W	0.00 ft	Easting: 2,039,537.48 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 39° 54' 22.288 N
			Longitude: 109° 34' 36.613 W
			Ground Level: 5,327.00 ft

Wellbore	NBU 1021-32D4BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/27/2011	11.14	65.79	52,302

Design	PLAN #1 1-27-11 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	309.41

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,550.00	25.00	309.41	1,510.71	170.40	-207.38	2.00	2.00	0.00	309.41	
4,122.81	25.00	309.41	3,842.47	860.67	-1,047.49	0.00	0.00	0.00	0.00	
5,372.81	0.00	0.00	5,053.18	1,031.07	-1,254.87	2.00	-2.00	0.00	180.00	
9,631.63	0.00	0.00	9,312.00	1,031.07	-1,254.87	0.00	0.00	0.00	0.00	PBHL_NBU 1021-32F



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,495,065.96	2,039,537.48	39° 54' 22.288 N	109° 34' 36.613 W
100.00	0.00	0.00	100.00	0.00	0.00	14,495,065.96	2,039,537.48	39° 54' 22.288 N	109° 34' 36.613 W
200.00	0.00	0.00	200.00	0.00	0.00	14,495,065.96	2,039,537.48	39° 54' 22.288 N	109° 34' 36.613 W
300.00	0.00	0.00	300.00	0.00	0.00	14,495,065.96	2,039,537.48	39° 54' 22.288 N	109° 34' 36.613 W
Start Build 2.00									
400.00	2.00	309.41	399.98	1.11	-1.35	14,495,067.05	2,039,536.12	39° 54' 22.299 N	109° 34' 36.631 W
500.00	4.00	309.41	499.84	4.43	-5.39	14,495,070.30	2,039,532.02	39° 54' 22.331 N	109° 34' 36.682 W
600.00	6.00	309.41	599.45	9.96	-12.13	14,495,075.73	2,039,525.20	39° 54' 22.386 N	109° 34' 36.769 W
700.00	8.00	309.41	698.70	17.70	-21.54	14,495,083.31	2,039,515.66	39° 54' 22.463 N	109° 34' 36.890 W
800.00	10.00	309.41	797.47	27.63	-33.63	14,495,093.05	2,039,503.42	39° 54' 22.561 N	109° 34' 37.045 W
900.00	12.00	309.41	895.62	39.74	-48.37	14,495,104.93	2,039,488.48	39° 54' 22.680 N	109° 34' 37.234 W
974.21	13.48	309.41	968.00	50.13	-61.01	14,495,115.11	2,039,475.68	39° 54' 22.783 N	109° 34' 37.396 W
GREEN RIVER									
1,000.00	14.00	309.41	993.06	54.02	-65.75	14,495,118.93	2,039,470.88	39° 54' 22.822 N	109° 34' 37.457 W
1,100.00	16.00	309.41	1,089.64	70.45	-85.75	14,495,135.04	2,039,450.62	39° 54' 22.984 N	109° 34' 37.714 W
1,200.00	18.00	309.41	1,185.27	89.01	-108.33	14,495,153.24	2,039,427.74	39° 54' 23.167 N	109° 34' 38.004 W
1,300.00	20.00	309.41	1,279.82	109.68	-133.49	14,495,173.50	2,039,402.26	39° 54' 23.372 N	109° 34' 38.326 W
1,400.00	22.00	309.41	1,373.17	132.43	-161.18	14,495,195.80	2,039,374.22	39° 54' 23.597 N	109° 34' 38.682 W
1,500.00	24.00	309.41	1,465.21	157.23	-191.36	14,495,220.12	2,039,343.64	39° 54' 23.842 N	109° 34' 39.069 W
1,550.00	25.00	309.41	1,510.71	170.40	-207.38	14,495,233.03	2,039,327.41	39° 54' 23.972 N	109° 34' 39.275 W
Start 2572.81 hold at 1550.00 MD									
1,600.00	25.00	309.41	1,556.03	183.81	-223.71	14,495,246.18	2,039,310.87	39° 54' 24.105 N	109° 34' 39.484 W
1,700.00	25.00	309.41	1,646.66	210.64	-256.36	14,495,272.49	2,039,277.79	39° 54' 24.370 N	109° 34' 39.904 W
1,800.00	25.00	309.41	1,737.29	237.47	-289.02	14,495,298.79	2,039,244.72	39° 54' 24.635 N	109° 34' 40.323 W
1,900.00	25.00	309.41	1,827.92	264.30	-321.67	14,495,325.10	2,039,211.64	39° 54' 24.900 N	109° 34' 40.742 W
2,000.00	25.00	309.41	1,918.55	291.13	-354.32	14,495,351.41	2,039,178.56	39° 54' 25.165 N	109° 34' 41.161 W
2,100.00	25.00	309.41	2,009.18	317.96	-386.98	14,495,377.71	2,039,145.49	39° 54' 25.431 N	109° 34' 41.580 W
2,154.97	25.00	309.41	2,059.00	332.71	-404.93	14,495,392.17	2,039,127.31	39° 54' 25.576 N	109° 34' 41.810 W
8 5/8"									
2,200.00	25.00	309.41	2,099.81	344.79	-419.63	14,495,404.02	2,039,112.41	39° 54' 25.696 N	109° 34' 41.999 W
2,300.00	25.00	309.41	2,190.44	371.62	-452.28	14,495,430.32	2,039,079.33	39° 54' 25.961 N	109° 34' 42.418 W
2,400.00	25.00	309.41	2,281.07	398.45	-484.94	14,495,456.63	2,039,046.26	39° 54' 26.226 N	109° 34' 42.837 W
2,500.00	25.00	309.41	2,371.70	425.28	-517.59	14,495,482.94	2,039,013.18	39° 54' 26.491 N	109° 34' 43.256 W
2,600.00	25.00	309.41	2,462.34	452.11	-550.24	14,495,509.24	2,038,980.10	39° 54' 26.757 N	109° 34' 43.675 W
2,700.00	25.00	309.41	2,552.97	478.94	-582.90	14,495,535.55	2,038,947.03	39° 54' 27.022 N	109° 34' 44.095 W
2,800.00	25.00	309.41	2,643.60	505.77	-615.55	14,495,561.85	2,038,913.95	39° 54' 27.287 N	109° 34' 44.514 W
2,900.00	25.00	309.41	2,734.23	532.60	-648.20	14,495,588.16	2,038,880.87	39° 54' 27.552 N	109° 34' 44.933 W
3,000.00	25.00	309.41	2,824.86	559.43	-680.86	14,495,614.46	2,038,847.80	39° 54' 27.817 N	109° 34' 45.352 W
3,100.00	25.00	309.41	2,915.49	586.26	-713.51	14,495,640.77	2,038,814.72	39° 54' 28.083 N	109° 34' 45.771 W
3,200.00	25.00	309.41	3,006.12	613.09	-746.16	14,495,667.08	2,038,781.64	39° 54' 28.348 N	109° 34' 46.190 W
3,300.00	25.00	309.41	3,096.75	639.92	-778.82	14,495,693.38	2,038,748.57	39° 54' 28.613 N	109° 34' 46.609 W
3,400.00	25.00	309.41	3,187.38	666.74	-811.47	14,495,719.69	2,038,715.49	39° 54' 28.878 N	109° 34' 47.028 W
3,500.00	25.00	309.41	3,278.01	693.57	-844.12	14,495,745.99	2,038,682.41	39° 54' 29.143 N	109° 34' 47.447 W
3,600.00	25.00	309.41	3,368.64	720.40	-876.78	14,495,772.30	2,038,649.34	39° 54' 29.409 N	109° 34' 47.867 W
3,700.00	25.00	309.41	3,459.27	747.23	-909.43	14,495,798.60	2,038,616.26	39° 54' 29.674 N	109° 34' 48.286 W
3,800.00	25.00	309.41	3,549.90	774.06	-942.08	14,495,824.91	2,038,583.18	39° 54' 29.939 N	109° 34' 48.705 W
3,900.00	25.00	309.41	3,640.54	800.89	-974.73	14,495,851.22	2,038,550.11	39° 54' 30.204 N	109° 34' 49.124 W
4,000.00	25.00	309.41	3,731.17	827.72	-1,007.39	14,495,877.52	2,038,517.03	39° 54' 30.469 N	109° 34' 49.543 W
4,100.00	25.00	309.41	3,821.80	854.55	-1,040.04	14,495,903.83	2,038,483.96	39° 54' 30.734 N	109° 34' 49.962 W
4,122.81	25.00	309.41	3,842.47	860.67	-1,047.49	14,495,909.83	2,038,476.41	39° 54' 30.795 N	109° 34' 50.058 W
Start Drop -2.00									
4,200.00	23.46	309.41	3,912.86	880.78	-1,071.96	14,495,929.54	2,038,451.62	39° 54' 30.994 N	109° 34' 50.372 W



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,300.00	21.46	309.41	4,005.27	905.03	-1,101.47	14,495,953.32	2,038,421.72	39° 54' 31.233 N	109° 34' 50.751 W
4,400.00	19.46	309.41	4,098.96	927.21	-1,128.48	14,495,975.07	2,038,394.37	39° 54' 31.453 N	109° 34' 51.097 W
4,496.00	17.54	309.41	4,190.00	946.55	-1,152.01	14,495,994.03	2,038,370.54	39° 54' 31.644 N	109° 34' 51.399 W
WASATCH									
4,500.00	17.46	309.41	4,193.81	947.31	-1,152.94	14,495,994.78	2,038,369.60	39° 54' 31.651 N	109° 34' 51.411 W
4,600.00	15.46	309.41	4,289.71	965.29	-1,174.82	14,496,012.41	2,038,347.43	39° 54' 31.829 N	109° 34' 51.692 W
4,700.00	13.46	309.41	4,386.54	981.14	-1,194.11	14,496,027.95	2,038,327.89	39° 54' 31.986 N	109° 34' 51.940 W
4,800.00	11.46	309.41	4,484.18	994.83	-1,210.77	14,496,041.37	2,038,311.01	39° 54' 32.121 N	109° 34' 52.154 W
4,900.00	9.46	309.41	4,582.52	1,006.35	-1,224.79	14,496,052.67	2,038,296.81	39° 54' 32.235 N	109° 34' 52.334 W
5,000.00	7.46	309.41	4,681.42	1,015.69	-1,236.16	14,496,061.82	2,038,285.30	39° 54' 32.327 N	109° 34' 52.479 W
5,100.00	5.46	309.41	4,780.78	1,022.83	-1,244.84	14,496,068.82	2,038,276.50	39° 54' 32.398 N	109° 34' 52.591 W
5,200.00	3.46	309.41	4,880.48	1,027.76	-1,250.85	14,496,073.65	2,038,270.42	39° 54' 32.447 N	109° 34' 52.668 W
5,300.00	1.46	309.41	4,980.38	1,030.48	-1,254.16	14,496,076.32	2,038,267.06	39° 54' 32.473 N	109° 34' 52.710 W
5,372.81	0.00	0.00	5,053.18	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
Start 4258.82 hold at 5372.81 MD									
5,400.00	0.00	0.00	5,080.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
5,500.00	0.00	0.00	5,180.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
5,600.00	0.00	0.00	5,280.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
5,700.00	0.00	0.00	5,380.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
5,800.00	0.00	0.00	5,480.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
5,900.00	0.00	0.00	5,580.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,000.00	0.00	0.00	5,680.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,100.00	0.00	0.00	5,780.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,200.00	0.00	0.00	5,880.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,300.00	0.00	0.00	5,980.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,400.00	0.00	0.00	6,080.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,500.00	0.00	0.00	6,180.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,600.00	0.00	0.00	6,280.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,700.00	0.00	0.00	6,380.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,800.00	0.00	0.00	6,480.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
6,900.00	0.00	0.00	6,580.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,000.00	0.00	0.00	6,680.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,100.00	0.00	0.00	6,780.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,200.00	0.00	0.00	6,880.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,300.00	0.00	0.00	6,980.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,396.63	0.00	0.00	7,077.00	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
MESAVERDE									
7,400.00	0.00	0.00	7,080.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,500.00	0.00	0.00	7,180.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,600.00	0.00	0.00	7,280.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,700.00	0.00	0.00	7,380.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,800.00	0.00	0.00	7,480.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
7,900.00	0.00	0.00	7,580.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,000.00	0.00	0.00	7,680.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,100.00	0.00	0.00	7,780.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,200.00	0.00	0.00	7,880.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,300.00	0.00	0.00	7,980.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,400.00	0.00	0.00	8,080.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,500.00	0.00	0.00	8,180.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,600.00	0.00	0.00	8,280.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,700.00	0.00	0.00	8,380.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
8,800.00	0.00	0.00	8,480.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1021-32D4BS
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Project:	UTAH - UTM (feet), NAD27, Zone 12N	MD Reference:	GL 5327' & KB 4' @ 5331.00ft (ASSUMED)
Site:	UINTAH_STATE 1021-32F PAD	North Reference:	True
Well:	NBU 1021-32D4BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	NBU 1021-32D4BS		
Design:	PLAN #1 1-27-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,900.00	0.00	0.00	8,580.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,000.00	0.00	0.00	8,680.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,100.00	0.00	0.00	8,780.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,200.00	0.00	0.00	8,880.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,300.00	0.00	0.00	8,980.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,400.00	0.00	0.00	9,080.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,500.00	0.00	0.00	9,180.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,600.00	0.00	0.00	9,280.37	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
9,631.63	0.00	0.00	9,312.00	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
TD at 9631.63 - PBHL_NBU 1021-32D4BS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NBU 1021-32D4BS	0.00	0.00	9,312.00	1,031.07	-1,254.87	14,496,076.90	2,038,266.34	39° 54' 32.479 N	109° 34' 52.720 W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,154.97	2,059.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
974.21	968.00	GREEN RIVER			
4,496.00	4,190.00	WASATCH			
7,396.63	7,077.00	MESAVERDE			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,550.00	1,510.71	170.40	-207.38	Start 2572.81 hold at 1550.00 MD
4,122.81	3,842.47	860.67	-1,047.49	Start Drop -2.00
5,372.81	5,053.18	1,031.07	-1,254.87	Start 4258.82 hold at 5372.81 MD
9,631.63	9,312.00	1,031.07	-1,254.87	TD at 9631.63

NBU 1021-32C4BS

Surface: 1,872' FNL 2,121' FWL (SE/4NW/4)
BHL: 825' FNL 2,188' FEL (NE/4NW/4)

NBU 1021-32D4BS

Surface: 1,860' FNL 2,105' FWL (SE/4NW/4)
BHL: 825' FNL 842' FWL (NW/4NW/4)

NBU 1021-32E4BS

Surface: 1,866' FNL 2,113' FWL (SE/4NW/4)
BHL: 2,072' FNL 841' FWL (SW/4NW/4)

NBU 1021-32F4BS

Surface: 1,878' FNL 2,129' FWL (SE/4NW/4)
BHL: 2,053' FNL 2,191' FWL (SE/4NW/4)

Pad: NBU 1021-32F
Section 32 T10S R21E
Mineral Lease: ML 21577

Uintah County, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

Approximately $\pm 125'$ (0.02 miles) of new road is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 1,645'$ and the individual segments are broken up as follows:

- $\pm 670'$ (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
- $\pm 65'$ (0.01 miles) –New 6" buried gas pipeline from the edge of pad to the road intersection.
- $\pm 910'$ (0.2 miles) –New 12" buried gas pipeline from the road intersection to the previously proposed 16" gas pipeline.

The total liquid gathering pipeline distance from the separator to the tie in point is $\pm 1,645$ and the individual segments are broken up as follows:

- $\pm 670'$ (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
- $\pm 65'$ (0.01 miles) –New 6" buried liquid pipeline from the edge of pad to the road intersection.
- $\pm 910'$ (0.2 miles) –New 6" buried liquid pipeline from road intersection to the previously proposed liquid pipeline.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.
No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods of Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

- RNI in Sec. 5 T9S R22E
- Ace Oilfield in Sec. 2 T6S R20E
- MC&MC in Sec. 12 T6S R19E
- Pipeline Facility in Sec. 36 T9S R20E
- Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
- Bonanza Evaporation Pond in Sec. 2 T10S R23E
- Ouray #1 SWD in Sec. 1 T9S R21E
- NBU 159 SWD in Sec. 35 T9S R21E
- CIGE 112D SWD in Sec. 19 T9S R21E
- CIGE 114 SWD in Sec. 34 T9S R21E
- NBU 921-34K SWD in Sec. 34 T9S R21E
- NBU 921-33F SWD in Sec. 33 T9S R21E
- NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition,

no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where

possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA

675 East 500 South, Suite 500

Salt Lake City, UT 84102

K. Other Information:

None

M. Lessee's or Operators' Representative & Certification:

Danielle Piernot
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.


Danielle Piernot

March 11, 2011
Date



Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
DENVER, CO 80217-3779

January 17, 2011

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1021-32D4BS
T10S-R21E
Section 32: SENW (Surf), NWNW (Bottom)
Surface: 2105' FWL, 1860' FNL
Bottom Hole: 842' FWL, 825' FNL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 1021-32D4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

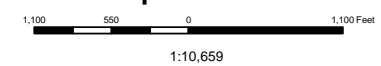
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'R. Spencer'.

Robert Spencer
Landman II



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

March 16, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 1021-30P PAD

43-047-51510	NBU 1021-30O4BS	Sec 30 T10S R21E 1179 FSL 0971 FEL
	BHL	Sec 30 T10S R21E 0499 FSL 1831 FEL

43-047-51511	NBU 1021-30P1CS	Sec 30 T10S R21E 1189 FSL 0972 FEL
	BHL	Sec 30 T10S R21E 0837 FSL 0499 FEL

NBU 1021-32F PAD

43-047-51512	NBU 1021-32C4BS	Sec 32 T10S R21E 1872 FNL 2121 FWL
	BHL	Sec 32 T10S R21E 0825 FNL 2188 FWL

43-047-51513	NBU 1021-32D4BS	Sec 32 T10S R21E 1860 FNL 2105 FWL
	BHL	Sec 32 T10S R21E 0825 FNL 0842 FWL

43-047-51514	NBU 1021-32E4BS	Sec 32 T10S R21E 1866 FNL 2113 FWL
	BHL	Sec 32 T10S R21E 2072 FNL 0841 FWL

43-047-51515	NBU 1021-32F4BS	Sec 32 T10S R21E 1878 FNL 2129 FWL
	BHL	Sec 32 T10S R21E 2053 FNL 2191 FWL

NBU 1021-28F PAD

43-047-51516	NBU 1021-28C4BS	Sec 28 T10S R21E 1730 FNL 2213 FWL
	BHL	Sec 28 T10S R21E 0831 FNL 2151 FWL

RECEIVED: May. 31, 2011

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51517	NBU 1021-28D4BS	Sec 28 T10S R21E 1726 FNL 2204 FWL
	BHL	Sec 28 T10S R21E 0834 FNL 0827 FWL
43-047-51518	NBU 1021-28E4BS	Sec 28 T10S R21E 1733 FNL 2222 FWL
	BHL	Sec 28 T10S R21E 2168 FNL 0828 FWL
43-047-51519	NBU 1021-28F4BS	Sec 28 T10S R21E 1736 FNL 2232 FWL
	BHL	Sec 28 T10S R21E 2163 FNL 2153 FWL
NBU 1021-28H PAD		
43-047-51520	NBU 1021-28A4BS	Sec 28 T10S R21E 2029 FNL 0866 FEL
	BHL	Sec 28 T10S R21E 0828 FNL 0496 FEL
43-047-51521	NBU 1021-28B4BS	Sec 28 T10S R21E 2038 FNL 0871 FEL
	BHL	Sec 28 T10S R21E 0830 FNL 1820 FEL
43-047-51522	NBU 1021-28G4BS	Sec 28 T10S R21E 2047 FNL 0876 FEL
	BHL	Sec 28 T10S R21E 2158 FNL 1822 FEL
43-047-51523	NBU 1021-28H4BS	Sec 28 T10S R21E 2056 FNL 0880 FEL
	BHL	Sec 28 T10S R21E 2153 FNL 0497 FEL
NBU 1021-29F PAD		
43-047-51524	NBU 1021-29C4BS	Sec 29 T10S R21E 1685 FNL 1518 FWL
	BHL	Sec 29 T10S R21E 0837 FNL 2171 FWL
43-047-51525	NBU 1021-29D4BS	Sec 29 T10S R21E 1687 FNL 1498 FWL
	BHL	Sec 29 T10S R21E 0838 FNL 0835 FWL
43-047-51526	NBU 1021-29E4BS	Sec 29 T10S R21E 1689 FNL 1488 FWL
	BHL	Sec 29 T10S R21E 2179 FNL 0837 FWL
43-047-51527	NBU 1021-29F4BS	Sec 29 T10S R21E 1686 FNL 1508 FWL
	BHL	Sec 29 T10S R21E 2177 FNL 2176 FWL
NBU 1021-29I		
43-047-51528	NBU 1021-29I1CS	Sec 29 T10S R21E 1988 FSL 0409 FEL
	BHL	Sec 29 T10S R21E 2173 FSL 0503 FEL
43-047-51529	NBU 1021-29J1CS	Sec 29 T10S R21E 1980 FSL 0427 FEL
	BHL	Sec 29 T10S R21E 2175 FSL 1844 FEL
43-047-51530	NBU 1021-29O1CS	Sec 29 T10S R21E 1984 FSL 0418 FEL
	BHL	Sec 29 T10S R21E 0837 FSL 1849 FEL
43-047-51531	NBU 1021-29P1CS	Sec 29 T10S R21E 1993 FSL 0400 FEL
	BHL	Sec 29 T10S R21E 0836 FSL 0504 FEL

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 1021-30F

43-047-51532	NBU 1021-30C4BS	Sec 30 T10S R21E 1954 FNL 1948 FWL
	BHL	Sec 30 T10S R21E 0826 FNL 2156 FWL

43-047-51533	NBU 1021-30D4BS	Sec 30 T10S R21E 1964 FNL 1950 FWL
	BHL	Sec 30 T10S R21E 0821 FNL 0829 FWL

43-047-51534	NBU 1021-30E4BS	Sec 30 T10S R21E 1973 FNL 1951 FWL
	BHL	Sec 30 T10S R21E 2136 FNL 0830 FWL

43-047-51535	NBU 1021-30F4BS	Sec 30 T10S R21E 1983 FNL 1953 FWL
	BHL	Sec 30 T10S R21E 2150 FNL 2159 FWL

1021-30P PAD

43-047-51536	NBU 1021-30H4BS	Sec 30 T10S R21E 1199 FSL 0972 FEL
	BHL	Sec 30 T10S R21E 2175 FNL 0498 FEL

43-047-51537	NBU 1021-30J1CS	Sec 30 T10S R21E 1209 FSL 0973 FEL
	BHL	Sec 30 T10S R21E 2162 FSL 1828 FEL

This office has no objection to permitting the wells at this time.

Michael L. Coulthard Digitally signed by Michael L. Coulthard
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch
of Minerals, email=Michael_Coulthard@blm.gov, c=US
Date: 2011.03.16 12:35:54 -06'00'

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:3-16-11

From: Jim Davis
To: Bonner, Ed; Garrison, LaVonne; Hill, Brad; Mason, Diana
CC: Jacobsen, Julie; Lytle, Andy; Piernot, Danielle
Date: 4/28/2011 2:24 PM
Subject: Kerr McGee APD approvals (28)

The following APDs have been approved by SITLA including arch clearance. Paleo clearance is granted with the stipulations noted below.

These wells are approved with out stipulation.

4304751536 NBU 1021-30H4BS
4304751537 NBU 1021-30J1CS
4304751510 NBU 1021-30O4BS
4304751511 NBU 1021-30P1CS
4304751512 NBU 1021-32C4BS
4304751513 NBU 1021-32D4BS
4304751514 NBU 1021-32E4BS
4304751515 NBU 1021-32F4BS

A permitted paleontologist needs to be on-site to observe construction of these wells/ pads.

4304751516 NBU 1021-28C4BS
4304751517 NBU 1021-28D4BS
4304751518 NBU 1021-28E4BS
4304751519 NBU 1021-28F4BS
4304751520 NBU 1021-28A4BS
4304751521 NBU 1021-28B4BS
4304751522 NBU 1021-28G4BS
4304751523 NBU 1021-28H4BS
4304751524 NBU 1021-29C4BS
4304751525 NBU 1021-29D4BS
4304751526 NBU 1021-29E4BS
4304751527 NBU 1021-29F4BS
4304751528 NBU 1021-29I1CS
4304751529 NBU 1021-29J1CS
4304751530 NBU 1021-29O1CS
4304751531 NBU 1021-29P1CS
4304751532 NBU 1021-30C4BS
4304751533 NBU 1021-30D4BS
4304751534 NBU 1021-30E4BS
4304751535 NBU 1021-30F4BS

-Jim Davis

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-32D4B			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	1973	9312		
Previous Shoe Setting Depth (TVD)	40	1973		
Max Mud Weight (ppg)	8.4	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5960	12.3		

Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	862		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	625	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	428	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	437	NO	Reasonable depth in area
Required Casing/BOPE Test Pressure=		1973	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient	

Calculations	Prod String	4.500	"	
Max BHP (psi)	.052*Setting Depth*MW=	6053		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4936	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4004	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4438	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		1973	psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	

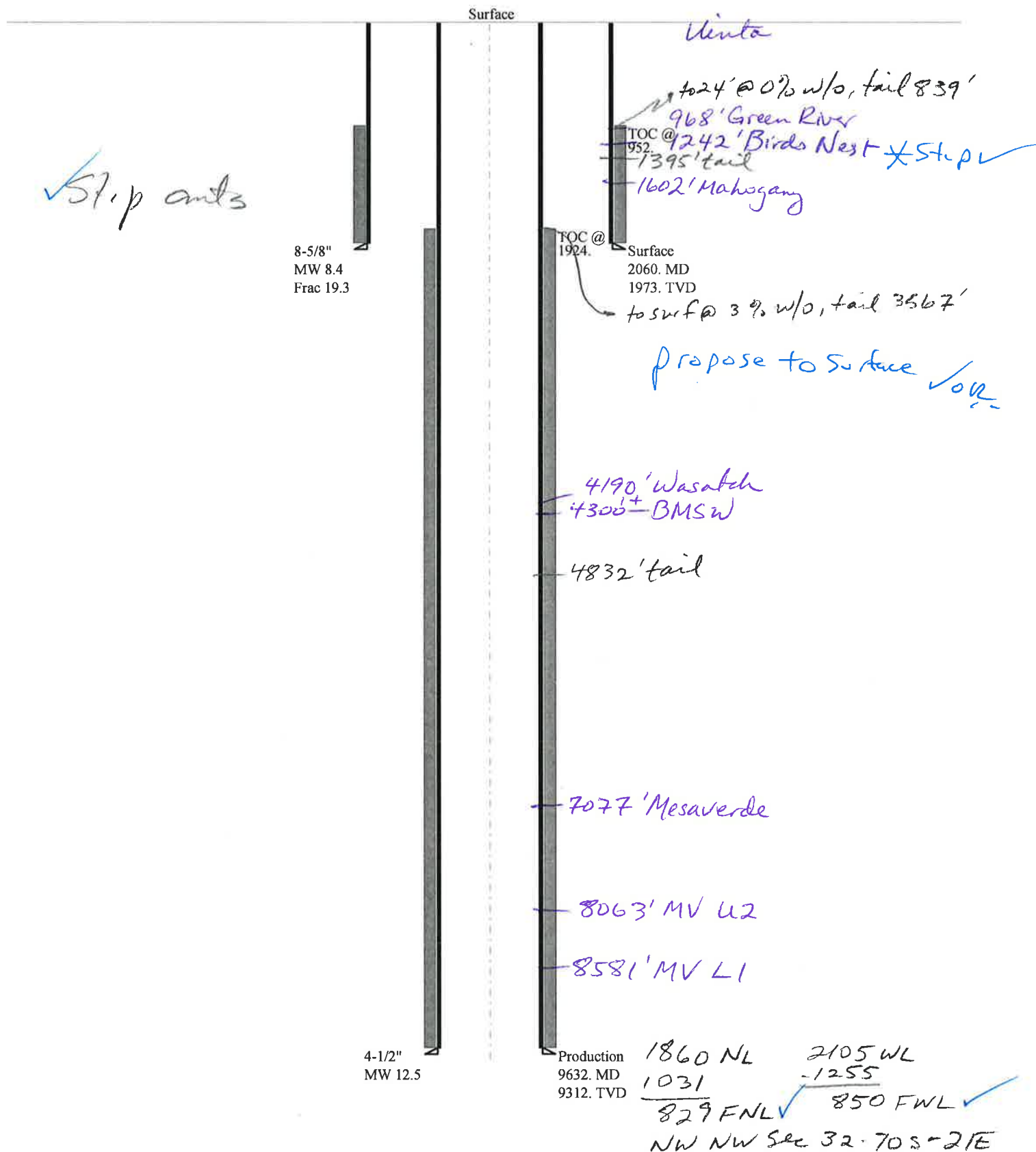
API Well Number: 43047515130000

*Max Pressure Allowed @ Previous Casing Shoe=

psi *Assumes 1psi/ft frac gradient

43047515130000 NBU 1021-32D4BS

Casing Schematic



Well name:	43047515130000 NBU 1021-32D4BS	
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.	
String type:	Surface	Project ID: 43-047-51513
Location:	UINTAH COUNTY	

Design parameters:**Collapse**

Mud weight: 8.400 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 102 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 952 ft

Burst

Max anticipated surface pressure: 1,813 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,050 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 1,790 ft

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 484 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 25 °

Re subsequent strings:

Next setting depth: 9,312 ft
Next mud weight: 12.500 ppg
Next setting BHP: 6,047 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,060 ft
Injection pressure: 2,060 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2060	8.625	28.00	I-55	LT&C	1973	2060	7.892	81576

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	861	1880	2.184	2050	3390	1.65	55.2	348	6.30 J

Prepared Helen Sadik-Macdonald
by: Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: May 25, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1973 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

RECEIVED: May. 31, 2011

Well name:	43047515130000 NBU 1021-32D4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-51513
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

Mud weight: 12.500 ppg
Internal fluid density: 1.000 ppg

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 204 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,924 ft

Burst

Max anticipated surface pressure: 3,998 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 6,047 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Directional Info - Build & Drop

Kick-off point: 300 ft
Departure at shoe: 1624 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Tension is based on air weight.
Neutral point: 7,892 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	9632	4.5	11.60	I-80	LT&C	9312	9632	3.875	127142
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5563	6360	1.143	6047	7780	1.29	108	212	1.96 J

Prepared by: Helen Sadik-Macdonald
Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: May 25, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9312 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

RECEIVED: May. 31, 2011

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator KERR-MCGEE OIL & GAS ONSHORE, L.P.
Well Name NBU 1021-32D4BS
API Number 43047515130000 **APD No** 3558 **Field/Unit** NATURAL BUTTES
Location: 1/4,1/4 SENW **Sec** 32 **Tw** 10.0S **Rng** 21.0E 1860 **FNL** 2105 **FWL**
GPS Coord (UTM) 621658 4418104 **Surface Owner**

Participants

See other comments.

Regional/Local Setting & Topography

The general area is within the Natural Buttes Unit in the middle portion of the Cottonwood Wash Drainage of Uintah County. The area is characterized by rolling hills and benches which are frequently intersected by somewhat gentle draws. The draws are occasionally rimmed with steep side hills which have exposed sand stone bedrock cliffs along the rims. Cottonwood Wash is an ephemeral drainage, which drains northerly approximately 6 miles to the White River. No seeps, springs or streams exist in the area. An occasional pond, constructed to store runoff for cattle and livestock exists.

This location is approximately 17.3 road miles southeast of Ouray, Utah and 48 road miles south of Vernal, Utah. It is accessed by the Seep Ridge Road then by Uintah County and existing or planned oil field development roads to within 125 feet of the proposed site. New construction will be required from this point.

The proposed NBU 1021-32F pad will contain 4 gas wells all to be directionally drilled. They are the NBU 1021-32D4BS, NBU 1021-32E4BS, NBU 1021-32C4BS and NBU 1021-32F4BS. The location is located on a rounded gentle slope which runs through the center of the pad. The terrain continues gently to the north. A few rounded hills exist in the general area. Maximum cut for the pad is 6.2 feet at location corner 2 and maximum fill is 7.0 feet at corner 10. A secondary road exists to the north just beyond the site. The reserve pit top soil stockpile will be moved from the area outside corners 1-2 to the area beyond the reserve pit spoils on the west side of the disturbed area. No drainages intersect the site and no diversions are needed. Cottonwood Wash is about 1/2 mile to the east.

The selected location appears to be a suitable site for drilling and operating a well, and is the best site in the immediate area

Both the surface and minerals for this location are owned by SITLA.

Surface Use Plan

Current Surface Use

Grazing
Recreational
Wildlife Habitat

New Road Miles	Well Pad	Src Const Material	Surface Formation
0.023	Width 353 Length 455	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

Environmental Parameters**Affected Floodplains and/or Wetlands** N**Flora / Fauna**

Vegetation is a desert shrub type. Vegetation included shadscale, broom snakeweed, sagebrush, curly mesquite grass, annual mustard, mat saltbrush, squirrel tail, cheat grass, prickly pear and spring annuals.

Antelope, cattle, rabbits, coyotes, and small mammals, birds and raptors.

Soil Type and Characteristics

Moderately deep sandy loam with small surface pavement.

Erosion Issues N**Sedimentation Issues** N**Site Stability Issues** N**Drainage Diversion Required?** N**Berm Required?** N**Erosion Sedimentation Control Required?** N**Paleo Survey Run?** Y **Paleo Potential Observed?** N **Cultural Survey Run?** Y **Cultural Resources?****Reserve Pit****Site-Specific Factors****Site Ranking**

Distance to Groundwater (feet)	100 to 200	5
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score		40

1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut in the southeast corner of the location. Dimensions are 120' x 260' x 12' deep with 2' of freeboard and a 15' outer bench. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y**Other Observations / Comments**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Clay Einerson, Charles Chase, Roger Perry, Duane Holmes, Kenny Gathings, Andy Lytle and Shelia Wopsock (Kerr McGee), Alex Hansen and Ben Williams (UDWR), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying).

Floyd Bartlett
Evaluator

3/30/2011
Date / Time

Application for Permit to Drill

Statement of Basis

5/31/2011

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3558	43047515130000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	NBU 1021-32D4BS		Unit	NATURAL BUTTES	
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SENW 32 10S 21E S 1860 FNL 2105 FWL GPS Coord (UTM) 621649E 4418111N				

Geologic Statement of Basis

Kerr McGee proposes to set 2,060' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,300'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 32. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill
APD Evaluator

4/26/2011
Date / Time

Surface Statement of Basis

The general area is within the Natural Buttes Unit in the middle portion of the Cottonwood Wash Drainage of Uintah County. The area is characterized by rolling hills and benches which are frequently intersected by somewhat gentle draws. The draws are occasionally rimmed with steep side hills which have exposed sand stone bedrock cliffs along the rims. Cottonwood Wash is an ephemeral drainage, which drains northerly approximately 6 miles to the White River. No seeps, springs or streams exist in the area. An occasional pond, constructed to store runoff for cattle and livestock exists.

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The selected location appears to be a suitable site for drilling and operating a well, and is the best site in the immediate area

Both the surface and minerals for this location are owned by SITLA. Jim Davis of SITLA attended the site visit. He had no concerns regarding the proposal except as noted above. A seed mix to be used in reclamation has previously been provided to Kerr McGee by SITLA for this zone. Ben Williams and Alex Hansen of the UDWR also attended. The area is classified as yearlong crucial habitat for antelope but no restrictions were recommended. No other wildlife species are expected to be significantly affected.

RECEIVED: May. 31, 2011

Application for Permit to Drill Statement of Basis

5/31/2011

Utah Division of Oil, Gas and Mining

Page 2

Floyd Bartlett
Onsite Evaluator

3/30/2011
Date / Time

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 3/14/2011**API NO. ASSIGNED:** 43047515130000**WELL NAME:** NBU 1021-32D4BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6156**CONTACT:** Danielle Piernot**PROPOSED LOCATION:** SENW 32 100S 210E**Permit Tech Review:** ☒**SURFACE:** 1860 FNL 2105 FWL**Engineering Review:** ☒**BOTTOM:** 0825 FNL 0842 FWL**Geology Review:** ☒**COUNTY:** UINTAH**LATITUDE:** 39.90625**LONGITUDE:** -109.57688**UTM SURF EASTINGS:** 621649.00**NORTHINGS:** 4418111.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** ML 21577**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**☒ **PLAT**☒ **Bond:** STATE/FEE - 22013542☐ **Potash**☒ **Oil Shale 190-5**☐ **Oil Shale 190-3**☐ **Oil Shale 190-13**☒ **Water Permit:** Permit #43-8496☐ **RDCC Review:**☐ **Fee Surface Agreement**☒ **Intent to Commingle****Commingle Approved****LOCATION AND SITING:**☐ **R649-2-3.****Unit:** NATURAL BUTTES☐ **R649-3-2. General**☐ **R649-3-3. Exception**☒ **Drilling Unit****Board Cause No:** Cause 173-14**Effective Date:** 12/2/1999**Siting:** Suspends General Siting☒ **R649-3-11. Directional Drill****Comments:** Presite Completed

Stipulations: 3 - Commingle - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmadonald

RECEIVED: May. 31, 2011



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 1021-32D4BS
API Well Number: 43047515130000
Lease Number: ML 21577
Surface Owner: STATE
Approval Date: 5/31/2011

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingling:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 21577
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1021-32D4BS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1860 FNL 2105 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 32 Township: 10.0S Range: 21.0E Meridian: S		9. API NUMBER: 43047515130000
PHONE NUMBER: 720 929-6511		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 5/31/2012 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.		
<div style="text-align: right;"> Approved by the Utah Division of Oil, Gas and Mining Date: June 04, 2012 By: </div>		
NAME (PLEASE PRINT) Jenn Hawkins	PHONE NUMBER 720 929-6247	TITLE Staff Operations Specialist III
SIGNATURE N/A	DATE 5/29/2012	



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047515130000

API: 43047515130000

Well Name: NBU 1021-32D4BS

Location: 1860 FNL 2105 FWL QTR SENW SEC 32 TWNP 100S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 5/31/2011

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☒ Yes ☐ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Signature: Jenn Hawkins

Date: 5/29/2012

Title: Staff Operations Specialist III **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML 21577
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COUNTY: UINTAH		STATE: UTAH
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TYPE OF SUBMISSION	TYPE OF ACTION	
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.		
<div style="text-align: right;"> Approved by the Utah Division of Oil, Gas and Mining Date: May 14, 2013 By: </div>		
NAME (PLEASE PRINT) Teena Paulo		PHONE NUMBER 720 929-6236
SIGNATURE N/A		TITLE Staff Regulatory Specialist
DATE 5/10/2013		



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047515130000

API: 43047515130000

Well Name: NBU 1021-32D4BS

Location: 1860 FNL 2105 FWL QTR SENW SEC 32 TWNP 100S RNG 210E MER S

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Date Original Permit Issued: 5/31/2011

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- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Signature: Teena Paulo

Date: 5/10/2013

Title: Staff Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.



Kerr-McGee APDs to Rescind

Paulo, Teena <Teena.Paulo@anadarko.com>
To: "dianawhitney@utah.gov" <dianawhitney@utah.gov>

Mon, Apr 14, 2014 at 7:48 AM

Good Morning Diana,

Please see the below list of wells for the APD's that Kerr-McGee requests to rescind with UDOGM.

Well Name	API Number
NBU 1021-28F4BS	4304751519
NBU 1021-28E4BS	4304751518
NBU 1021-28D4BS	4304751517
NBU 1021-28C4BS	4304751516
NBU 1021-30P1CS	4304751511
NBU 1021-30O4BS	4304751510
NBU 1021-30J1CS	4304751537
NBU 1021-30H4BS	4304751536
NBU 1021-32F4BS	4304751515
NBU 1021-32D4BS	4304751513
NBU 1021-32C4BS	4304751512
NBU 1021-32E4BS	4304751514
NBU 921-22C GR	4304752559

Thank you,

Teena Paulo
Staff Regulatory Specialist
Anadarko Petroleum
1099 18th Street, Suite 600
Denver, CO 80202

[Click here for Anadarko's Electronic Mail Disclaimer](#)



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

April 22, 2014

Teena Paulo
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Suite 600
Denver, CO 80202

Re: APDs Rescinded for Kerr-McGee O&G Onshore, L.P., Uintah County

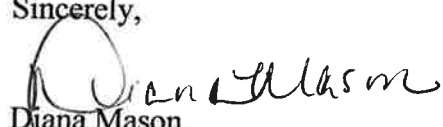
Dear Ms. Paulo:

Enclosed find the list of APDs that you have asked to be rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded, effective April 14, 2014.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,


Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal



43-047-51519	NBU 1021-28F4BS
43-047-51518	NBU 1021-28E4BS
43-047-51517	NBU 1021-28D4BS
43-047-51516	NBU 1021-28C4BS
43-047-51511	NBU 1021-30P1CS
43-047-51510	NBU 1021-30O4BS
43-047-51537	NBU 1021-30J1CS
43-047-51536	NBU 1021-30H4BS
43-047-51515	NBU 1021-32F4BS
43-047-51513	NBU 1021-32D4BS
43-047-51512	NBU 1021-32C4BS
43-047-51514	NBU 1021-32E4BS
43-047-52559	NBU 921-22C GR